NOVA SCOTIA
MUSEUM

CURATORIAL REPORT NUMBER 89

Fishes of Nova Scotia: Species Recorded in the Accession Books of Harry Piers From 1899 to 1939

by John Gilhen

A FAMILY *of* 25 MUSEUMS

NOVA SCOTIA
Tourism and Culture

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Fishes of Nova Scotia: Species Recorded in the Accession Books of Harry Piers From 1899 to 1939

by John Gilhen
Research Associate, Nova Scotia Museum of Natural History

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Museum of Natural History
Nova Scotia Museum
Nova Scotia Department of Tourism and Culture

CURATORIAL REPORTS

The Curatorial Reports of the Nova Scotia Museum make technical information on museum collections, programs, procedures and research accessible to interested readers.

This report contains the preliminary results of an on-going research program of the Museum. It may be cited in publications, but its manuscript status should be clearly noted.

Cover illustration: Harry Piers portrait by LeRoy Zwicker, 1940 and illustration of Sault Whitefish, now known as Atlantic Whitefish, by S. Edgar March, 1920.

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I. FOREWORD

A Biography Of Harry Piers[1]

Harry Piers (Fig. 1, Pl. 1[2]; Fig. 2A and B, Pl. 2[3]) *was born in Halifax in 1870 and educated there. He was a descendant of one of the city's founders, and had a great interest in local history and a wide knowledge of the subject.*

In 1889 he became Assistant Librarian of the Legislative Library. He was appointed Curator of the Provincial Museum in 1899 and in 1900 he became Librarian of the Provincial Science Library, holding these positions until his death.

He was a man of diverse knowledge and an active member of practically every cultural organization in Halifax. He was President of the Nova Scotian Institute of Science and its Secretary for forty years. During this time he wrote many articles for the Institute Proceedings on a variety of scientific subjects. He was also the author of a number of books and pamphlets including a detailed 560 page catalogue of the library of King's College, Windsor, published in 1893.

Two notable works were published after his death. One of these The Evolution of the Halifax Fortress, 1749-1928 *published by the Public Archives of Nova Scotia, was the result of some forty years of research by Mr. Piers and was compiled from manuscript and working notes left by him, and edited by G.M. Self and Phyllis Blakeley. It was published both for its value as a source of information on the early fortifications of Halifax, and as a tribute "to the patient and life-long labours of one who loved both his native city and antiquarian research". It has been said that he was the born antiquarian who, in his investigations, could not resist the claims of the smallest detail. Another valuable work, published posthumously by the Antiquarian Club of Halifax in 1948, was* Master Goldsmiths and Silversmiths of Nova Scotia and Their Marks. *This was based on a paper given before the Nova Scotia Historical Society in 1939. Published with a supplement by Donald C. MacKay it contains a wealth of information and is much sought after today.*

Harry Piers was President of the Nova Scotia Historical Society, Nova Scotia Society of Artists and the Nova Scotia Museum of Fine Arts; President of the local branch of the Canadian Authors' Association, a director of the Nova Scotia College of Art and Nova Scotia representative on the Geographic Board of Canada.

He carried on a copious correspondence with specialists in many fields all over the world and had a detailed knowledge of his own collections. He died January 24 th, 1940.

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[1]Excerpted from "*Three Directors In Ninety-Eight Years*" By Barbara Smith. Nova Scotia Museum Newsletter. Vol. 4, No. 4, December 1965.

[2]Figure 1, Plate 1. Portrait of Harry Piers (Negative No. 9,569)

[3]Figure 2 A and B, Plate 2. Harry Piers at work, about 1933-1935, Nova Scotia Provincial Museum, Halifax. (Negative No's 9,620 and 10,786)

II. INTRODUCTION

Serious workers want to know the history of their profession. They especially want to know who preceded them and what contribution they made. This report summarizes the work on fishes done by Harry Piers, one of the most significant figures in natural history in Nova Scotia during the last 100 years. Since his death in January 1940 Piers's everyday writing recorded in his six accession books were in storage and therefore were unknown and unavailable to natural history researchers in the 1940's through 1960's. Because of their immense cultural history value they rested for two decades secluded from the view of even most staff members of the museum, in a cabinet in the History Branch, which was located at the Halifax Citadel until 1971. The contents of these six volumes are now on microfilm in the library at the Nova Scotia Museum of Natural History, 1747 Summer Street, Halifax, Nova Scotia, Canada. B3H 3A6.

Harry Piers's accession books are official hardbound volumes approximately 40.5 centimetres long by 25.5 cm wide by 7.5 cm thick, each containing approximately 300 pages. He used a fine-nibbed quill pen and black india ink to make the entries, including sketches, in his accession books. His writing is often very small (Fig. 3 A and B, Pl. 3) and at first glance appears illegible, but with time and experience can be deciphered. Piers also did rough sketches of fishes before transferring them onto the pages of his accession books (Fig. 28, Pl. 30: Fig. 29, Pl. 31). Sometimes, to illustrate a point, he inserted small sketches within paragraphs or in the margin (Fig. 4, Pl. 4). There is one sketch, made from memory by K.G. Dalton, of a "Shovel-nosed Shark" (Fig. 5, Pl. 5) on which Piers made notes. Lacking more substantial evidence and the uncertainty regarding the species, it was not entered in his accession book.

Browsing through the Accession Books of Harry Piers is a fascinating educational adventure in Nova Scotia history and natural history. Piers was much more than a skilled technician in ichthyology (the study of fishes). He meticulously recorded artifacts relating to Nova Scotia archeology, ethnology, early European settlement, marine history, military history, numismatics and also items of interest and importance pertaining to the fishing, lumbering, mining and manufacturing industries in this province. He documented, with the same attention to detail, specimens in geology, palaeontology, botany, entomology, malacology, ichthyology, herpetology, ornithology and mammalogy. The time, effort and patience required to record, for future generations, 9,338 entries (average 234 per year) over a 40 year period (1899-1939) as curator of the Provincial Museum has been recognized by very few workers.

Piers was a remarkable example of a complete curator of fishes. He had a thorough knowledge of the museum fish collection. He was able to collect, preserve and catalogue fish specimens. He had a good working knowledge of the available literature, both popular and scientific, on fish. Using technical keys he could identify specimens unfamiliar to him. He could interpret ichthyology for those lay persons who brought specimens to him and, he published important records in the scientific literature. Perhaps his most important attribute was his uncanny sense of what information would be important for future researchers.

Natural history is a living, ever expanding and changing study. In order to appreciate the contributions Harry Piers made to the study of Nova Scotia fishes one has to realize very little was known about our fish fauna in 1899 when he first became curator of the Provincial Museum. There were no simplified identification keys to species available to Piers. He had to become familiar with all the technical terms relating to fish meristics and morphometrics in order to identify fish species unknown or unfamiliar to him,

and to complete his descriptions and label his line drawings. He consulted David Starr Jordan on methods of measuring fish (Fig. 6, Pl. 6).

Piers consulted with Dr. Philip Cox, ichthyologist and professor, University of New Brunswick, Fredericton; Andrew Halkett, Canadian Fisheries Museum, Ottawa; Alexander G. Huntsman, Biological Station, St. Andrew's, New Brunswick; Edward E. Prince, Dominion Commissioner of Fisheries, Department of the Naval Service, Ottawa, all of whom were authorities on Maritime fishes at that time. He also corresponded with scholars such as David Starr Jordan, President, Leland Stanford Junior University, Stanford University, California and Barton Warren Evermann, United States Fish Commission (co-authors of the 1896, four-volume *Fishes of North and Middle America*); Barton A. Bean, Curator, Division of Fishes, Smithsonian Institution, United States National Museum, Washington D.C. and Henry B. Bigelow (senior author of the 1925 *Fishes of the Gulf of Maine*). These were four of the authorities in the study of North American fishes at that time. Some of these letters are significant documents pertaining to the history of Nova Scotia fishes. The responses to his enquiries in the form of official letters and notes, some of which are wonderfully hand written, were catalogued (by Susan Whiteside, former Librarian) and are now filed as "The Harry Piers Papers" in the library at the Nova Scotia Musuem of Natural History.

Harry Piers collected specimens himself and purchased them for small sums of money at the Halifax fish markets. His brother Edward S.F. Piers was his most frequent donor of fish specimens. He and Edward collected material in the Hubbards area, Halifax County. Piers received many specimens from local fishermen. In addition his Mi'kmaq friend Jerry Lone-cloud, Lancelot A. Purcell and H. St. Claire Silver contributed specimens, as did many individuals of the general public.

Harry Piers provided us with the first record of the following species of fish in Nova Scotia: Thresher Shark, White Shark, Smooth Hammerhead, Tarpon, Fallfish, Atlantic (Acadian) Whitefish, Bluespotted Cornetfish, Dolphin (*Coryphaena hippurus*), Tautog, Atlantic Bonito, Albacore, Planehead Filefish and Striped Burrfish. He not only described each species in his accession books but somehow found the time to do sketches of many species, natural size whenever possible. He publish three of his first records (White Shark, Atlantic Whitefish [Sault White-fish] and Striped Burrfish) in the Proceedings of the Nova Scotian Institute of Science. He also recorded the second collections of Tautog, Long-finned Albacore and Gray Triggerfish.

Harry Piers kept a catalogue of the fishes he recorded on 5 x 7 inch index cards. He consulted Jordan and Evermann (1896) in numbering each species and filed his records following their taxonomy. It appears that he may have also planned to publish a book on fishes, as he received a congratulatory gesture in a letter from Philip Cox (Figs. 7A and B, Pls. 7 A and B). Piers left four two-ring binders of notes, labelled on end panel " Fishes Of N. S.". The title page of each volume "Catalogue of Fishes of Nova Scotia by Harry Piers" (Fig. 97, Pl. 102). The contents of these volumes in themselves are worthy of a curatorial report (Fig. 98, Pl. 103). For example, there is a section called "Introduced fish" which included four species introduced into Nova Scotia. In his account of the "Great Lake Trout, *Cristivomer namaycuch* (Walbaum)" he states,

> "Sometime about 1877, Great Lake Trout and Whitefish from the Great Lakes were hatched at the Bedford Hatchery and planted in nearly every lake in Nova Scotia. This was kept up for over 20 years, but they did not propagate in our waters, and not one, Mr. Ogden says, has ever been seen since. He considers that our waters are too warm for them. (Vide Alfred Ogden, letters of Feb. & March, 1915)"

(Figs. 8A and B, Pls. 8 and 9:Fig. 9, Pl. 10). Since information concerning introductions of Lake Trout in this province was lacking, all details are important. To put his fish records in context he gives in chronological order all previous records for each species, on his catalogue cards and in his four volumes of notes. He extracted all previous records of fish taken in the Canadian Atlantic and the fresh waters of Nova Scotia dating back to Jones (1882) "List Of The Fishes of Nova Scotia" and Jordan and Evermann (1896) "The Fishes of North and Middle America".

On 14 and 15 September 1915, Harry Piers attended the Provincial Exhibition and prepared a number of notes relating to fish and fishing gear (Fig. 61, Pl. 65; Fig. 62, Pl. 66; Fig. 63, Pl. 67; Fig. 74, Pl. 79; Fig. 75, Pl. 80; Fig. 76, Pl. 81; Fig. 77, Pl. 82 and Fig. 78, Pl. 83).

Every Nova Scotian should have the opportunity to view the accession books of Harry Piers. Historians and naturalists alike will marvel, as I do, at his ingenious ability to describe in interesting detail, often including superbly accurate and detailed sketches, of numerous artifacts and specimens. His ability to write with authority in so many diverse disciplines overwhelms the imagination. Inserted in the sleeve on the inside of the back cover is a reproduction of page 235 from Accession Book No. 4. I hope by presenting his records in this curatorial report it will finally bring to light the remarkable contribution Harry Piers made to the study of Nova Scotian fishes.

III. ACKNOWLEDGEMENTS

Throughout my 29-year career at the Nova Scotia Museum of Natural History I would try to spend at least one hour a month in the library to check the latest issues of various journals relating to ichthyology and herpetology for papers relevant to Nova Scotia. The hour usually stretched into two hours as the need to set up the micro-film machine and browse through the accession books of Harry Piers became an obsession. I vowed on my retirement I would return to the Museum of Natural History to publish a report on the work of this remarkable man. The project I thought could be accomplished in about six months.

I want to thank Andrew Hebda, Curator of Zoology, Nova Scotia Museum of Natural History for his assistance in deciphering certain letters and words in the fine hand writing of Harry Piers, during this two and one-half year project. Dr. W. Beverley Scott, Huntsman Marine Science Centre, St. Andrews, New Brunswick, and Frederick Scott, Research Associate, Nova Scotia Museum of Natural History, reviewed a draft of the manuscript and their comments and advice is greatly appreciated. Robert Grantham, Curator of Geology, Nova Scotia Museum of Natural History, reviewed the fossil fish records under the "Fish Related Items" section. Scott Robson, Curator of Collections, Museum Services Division, Nova Scotia Museum provided the original photographs of Harry Piers used in Figures 1 and 2, Plates 1 and 2. All of the excellent photographs used (Figures 1 to 102, Plates 1 to 107) in this report are by Roger Lloyd and Richard Pfander, Learning Resources and Technology, N.S. Department of Education. Cover design is by Barry Donovan, Learning Resources and Technology, N.S. Department of Education. Finally I must thank my wife, Karen, who assisted in the final formatting of the manuscript and, after many thirty minute drives to and from the museum, listened patiently as I spoke of Harry Piers: the man was an expert, the man was a professional, the man was exceptionally talented, the man was gifted, the man was a genius, he never had a degree, he never received an award, he never received any formal recognition, the work he did amazes me. My mentor, Harry Piers.

IV. LIST OF FISHES

Common names of fishes vary from one community to the next. For example, the Alewife in Nova Scotia is also known as Gaspereau, sawbelly and kyak. Scientific names may also change over time, as we look at the morphology of groups of fishes more carefully and undertake DNA studies. In order to organize and make a list of the fish records made by Harry Piers from 1899 to 1939 it was necessary to place all of the records of each species in chronological order (using the names given by Piers) under the common and scientific name presently in use and in taxonomic order following Robins et al. 1990 *Common and Scientific Names of Fishes from the United States and Canada.*

For example, during his 40 year tenure Piers recorded three samples of Common Shiner: in June 1918 under the name "Shiner; Red-fin, Dace, *Notropis cornutus* (Mitchill), var. *Fontinalis* (Agassiz)"; in 1919 under the name "Shiner; red-fin, *Notropis cornutus* (Mitchill)" and in 1935 under the name "Common Shiner, *Notropis cornutus* (Mitchill)". These three records are listed in chronological order under the present name for this species, Common Shiner, *Luxilus cornutus* (Mitchill, 1817) which falls under Minnows - Cyprinidae.

Petromyzontidae - Lampreys

Sea Lamprey, *Petromyzon marinus* Linnaeus, 1758

Mus. No. 3820: (see Appendix 52, Page 54)
[Land-locked] Great Sea Lamprey; Lamprey Eel
Petromyzon marinus, Linn.; probably variety *unicolor* (DeKay)
Grand Lake, Halifax Co., N. S.
21 June 1912:1 specimen: Jos. E. Campbell

Mus. No. 4167: (see Appendix 58, Page 57)
Great Sea Lamprey, *Petromyzon marinus,* Linn.
Shubenacadie River near Benery Brook near Enfield, Halifax Co., N. S.
28 June 1914: 1 specimen: John MacDonald

Alopiidae - Thresher Sharks

Thresher Shark, *Alopias vulpinus (*Bonnaterre, 1788)

Mus. No. 5152: (see Appendix 108, Page 87)
Thresher; Fox-shark, *Alopias vulpes* (Gmelin)
Horseshoe Cove, Cape d'Or, Minas Channel, Cumberland Co., N. S.
26 July 1922: 1 specimen: Photograph: Eli James

Lamnidae - Mackerel Sharks

White Shark, *Carcharodon carcharias* (Linnaeus, 1758)

Mus. No.7508: (see Appendix 133, Page 104)
Man-eater Shark, *Carcharodon carcharia* (Linn.)
Digby Gut, Annapolis Co., N. S.
About 2 July 1932:1 specimen: upper lateral tooth removed from boat after attack:
Wilson Munroe, fisherman

Mus. No. 7901: (see Appendix 140, Page 112)
Man-eater Shark, *Carcharodon carcharias* (Linn.)
Pig Island, Merigomish, Pictou Co., N. S.
27 July 1934:1 specimen; tooth:Charles Wilmont, Indian

Porbeagle, *Lamna nasus* (Bonnaterre, 1788)

Acc. No. 5571: (see Appendix 119, Page 94)
Porbeagle; Mackerel Shark, *Lamna cornubica* (Gmelin)
About 3 miles southeast of Devil's Island, off Halifax Harbour, N. S.
31 October 1924:1 specimen: Douglas Henneberry

Carcharhinidae - Requiem Sharks

Blue Shark, *Prionace glauca* (Linnaeus, 1758)

Acc. No. 3778: (see Appendix 50, Page 53)
Great Blue Shark; " Blue Dog" (local), *Prionace glauca* (Linn.) (= *Carcharhinus glaucus* (Linn.)
Off mouth of Halifax Harbour, Halifax Co., N. S.
September 1909:1 specimen: Benj. Henneberry

Acc. No. 4940: (see Appendix 99; Page 80)
Great Blue Shark, *Prionace glauca* (Linn.)
About 3 miles off Chebucto Head, Halifax Co., N. S.
23 September 1920: 1 specimen: jaws, and basal part of skull

Acc. No. 4941: (see Appendix 100, Page 81)
Great Blue Shark, *Prionace glauca* (Linn.)
4 miles southeast of Chebucto Head, Halifax Co., N. S.
10 October 1920: 1 specimen: jaws:Crew of No. 2 Pilot Boat (Schooner)

Acc. No. 7921: (see Appendix 142, Page 113)
Great Blue Shark, *Prionace glauca* (Linn.)
East of entrance of Halifax Harbour, Halifax Co., N.S.
11 September 1934:1 specimen: jaws: James T. Elgan

Sphyridae - Hammerhead Sharks

Smooth Hammerhead, *Sphyrna zygaena* (Linnaeus, 1758)

Acc. No. 4545: (see Appendix 74, Page 68)
Hammer-headed Shark, *Sphyrna zygaena*
About 2 miles off Prospect Harbour, Halifax Co., N. S.
28 August 1917: 1 specimen: Peter Hardiman

Squalidae - Dogfish Sharks

Spiny Dogfish, *Squalus acanthias* Linnaeus, 1758

Acc. No. 984: (see Appendix 17, Page 37)
Dogfish, *Squalus acanthias,* Linn.
North West Arm, Halifax Co., N. S.
7 August 1902: 4 specimens, young: Purchased

Acc. No. 5025: (see Appendix 105, Page 85)
Dog-fish, *Squalus acanthias,* Linn.
Off Halifax Harbour, Halifax Co., N. S.
21 September 1921: 1 specimen: Jos. Perrin

Rajidae - Skates

Raja species

Acc. No. 4997: (see Appendix 102, Page 84)
Skate (egg-case); " Devil's Pocketbook" or "Sea-purse", *Raja* sp.
Cow Bay, Halifax Co., N. S.
Received 9 June 1921: 1 specimen: Mrs. Amelia Reid

Little Skate, *Raja erinacea* Mitchill, 1825

Acc. No. 4522: (see Appendix 70, Page 66)
Common Skate; "Basket Skate", called "Pot Skate" by Cyrus Dauphinee,
Raja erinacea, Mitchill
Hubbards Cove, St. Margaret's Bay, Halifax Co., N. S.
16 July 1917: 1 specimen: Edward S. F. Piers

Barndoor Skate, *Raja laevis,* Mitchill

Acc. No. 4901: (see Appendix 90, Page 77)
Barn-door Skate, *Raja laevis,* Mitchill
Hubbards Cove, St. Margaret's Bay, Halifax Co., N. S.
28 July 1920: 1 specimen; jaws: Harry Piers

Acc. No. 5582: (see Appendix 120, Page 95)
Barn-door Skate; or Starry Skate, *Raja laevis* or *Raja radiata*
Hunt's Point, Port Mouton, Queens Co., N. S.
1924:1 specimen; jaws and teeth of male: H. A. Lawrence, C. E.

Winter Skate, *Raja ocellata* Mitchill

Acc. No. 4521: (see Appendix 69, Page 65)
Big Skate, *Raja ocellata,* Mitchill
Hubbards Cove, St. Margaret's Bay, Halifax Co., N. S.
14 July 1917: 1 specimen; jaws: Harry Piers

Acc. No. 4539: (see Appendix 73, Page 68)
Big Skate (or else Barndoor Skate),
Raja ocellata, Mitchill (or else *Raja laevis,* Garman)
Hubbards Cove, St. Margaret's Bay, Halifax Co., N. S.
About 14 July 1917: 1 specimen; of skeleton of cartilaginous skull & vertebrae

Acc. No. 4630: (see Appendix 80, Page 73)
Skate, *Raja ocellata,* Mitchill ?
Hubbards Cove, St. Margaret's Bay, Halifax Co., N. S.
About 21 July 1918:1 specimen; Cartilaginous Cranium and anterior Vertebrae

Acc. No. 4645; (see Appendix 84, Page 74)
Skate, *Raja ocellata,* Mitchill (?), or less likely *R. laevis*
Hubbards, Halifax Co., N. S.
About July 1918:1 specimen; Cartilaginus Cranium

Acipenseridae - Sturgeons

Atlantic Sturgeon, *Acipenser oxyrhynchus* Mitchill, 1814

Acc. No. 67: (see Appendix 3, Page 31)
Common (American) Sturgeon, *Acipenser sturio* var. *oxyrhynchus*
Shubenacadie River, Hants Co., N. S.
Speared about 1896: 1 specimen: Alex. Horne

Acc. No. 7600: (see Appendix 135, Page 107)
Common Sturgeon, *Acipenser sturio,* Linn.
Mouth of Salmon River, Cole Harbour, Halifax Co., N. S.
23 May 1933: 1 specimen: Samuel Embirly

Elopidae - Tarpons

Tarpon, *Megalops atlanticus* Valenciennes, 1847

Acc. No. 3034: (see Appendix 24, Page 39)
Tarpon or Tarpum, *Tarpon atlanticus* (Cuv. & Valen.) (= *Megalops atlanticus* of Jordans [sic])
Harrigan Cove, Halifax Co., N. S.
6 September 1906: 1 specimen: Edward McDonald

Anguillidae - Freshwater Eels

American Eel, *Anguilla rostrata* (Lesueur, 1817)

Acc. No. 3671: (see Appendix 46, Page 52)
Eel, *Anguilla chrysypha,* Rafinesque (= *Anguilla anguilla rostrata* (Le Sueur))
Nictaux River near Middleton, Annapolis Co., N. S.
June 1910: 2 specimens: Dr. Frank H. Reid

Acc. No. 3796: (see Appendix 51, Page 54)
American Eel; Freshwater Eel, *Anguilla chrysypa,* Rafinesque (= *A. anguilla rostrata* (Le Sueur))
North West Arm, Halifax Co., N. S.
22 June 1912: 1 specimen: Edward S. F. Piers

Acc. No. 4695: (see Appendix 86, Page 75)
American Eel, *Anguilla chrysypa,* Rafinesque
Shubenacadie River, Elmsdale, Hants Co., N. S.
12 February 1919: 1 specimen; skin: Jerry Lone-cloud

Clupeidae - Herrings

Alewife (Gaspereau), *Alosa pseudoharengus* (Wilson, 1811)

Acc. No. 4242: (see Appendix 62, Page 61)
Alewife; "Gaspereau", *Pomolobus pseudoharengus* (Wilson)
Nine Mile River, St Margaret's Bay Road, Halifax Co., N. S.
29 May 1915: 1 specimen: [collector unknown]

Acc. No. 4243: (see Appendix 63, Page 61)
Alewife; "Gaspereau", *Pomolobus pseudoharengus* (Wilson)
Nine Mile River, St Margarets Bay Road, Halifax Co., N. S.
29 May 1915: 1 specimen: Nil

Acc. No. 5029: (see Appendix 106, Page 85)
Alewife; Gaspereau, *Pomolobus pseudoharengus* (Wilson)
Shubenacadie River at Elmsdale, Hants Co., N. S.
29 September 1921: 4 specimens: Jerry Lone-cloud

Acc. No. 8572: (see Appendix 147, Page 117)
Alewife; Gaspereau, *Pomolobus pseudoharengus* (Wilson)
Sawler's Lake, Hubbards, Halifax Co., N. S.
20 September 1936: 1 specimen: Edward S. F. Piers

Atlantic Herring, *Clupea harengus* Linnaeus, 1758

Acc. No. 4537: (see Appendix 71, Page 67)
Common Herring, *Clupea harengus*, Linn.
Hubbards Cove, St. Margaret's Bay, Halifax Co., N. S.
31 July 1917: 9 specimens: Edward S. F. Piers

Cyprinidae - Carps and Minnows

Lake Chub, *Couesius plumbeus* (Agassiz, 1850)

Acc. No. 3553: (see Appendix 36, Page 47)
Couesius plumbeus (Agassy) [sic]
Penhorn Lake, Dartmouth, Halifax Co., N. S.
4 May 1910: 6 specimens: Lancelot A. Purcell

Acc. No. 4934: (see Appendix 96, Page 79)
Couesius plumbeus (Agassig) [sic]
Shubenacadie River at Enfield, Hants Co., N. S.
August 1919: 4 specimens: Alexander H. Leim

Common Shiner, *Luxilus cornutus* (Mitchill)

Acc. No. 4622: (see Appendix 79, Page 72)
Shiner; Red-fin, Dace, *Notropis cornutus* (Mitchill), var. *fontialis* (Agassiz) = *N. megalope* (Rafinesque)
Wright's Lake, Halifax Co., N. S.
About end of June 1918: 2 specimens: James T. Thompson

Acc. No. 4933: (see Appendix 95, Page 79)
Shiner; Red-fin, *Notropis cornutus* (Mitchill)
Shubenacadie River at Elmsdale, Hants Co., N. S.
August 1919: 2 specimens: Alexander H. Leim

Acc. No. 8170: (see Appendix 143, Page 114)
Common Shiner, *Notropis cornutus* (Mitchill) ?
Crawford's Falls, Musquodoboit River, Halifax Co., N. S.
30 June 1935: 1 specimen: Edward S. F. Piers

Golden Shiner, *Notemigonus crysoleucas* (Mitchill, 1814)

Acc. No. 3263: (see Appendix 26, Page 41)
Golden Shiner, *Abramis (Notemigonus) crysoleucas* (Mitchill)
9 miles above tide-water, on river, Antigonish, Antigonish Co., N. S.
July 1908: 1 specimen: Dr. W. H. Macdonald

Acc. No. 3540: (see Appendix 31, Page 44)
Golden Shiner, *Abramis (Notemigonus) crysolucas*
Maynard's Lake, Dartmouth, Halifax Co., N. S.
19 April 1910: 12 specimens: Lancelot A. Purcell

Acc. No. 4224: (see Appendix 60, Page 58)
Golden Shiner, *Abramis crysoleucas* (Mitchill)
Blueberry Lake near Beachville St. Margaret's Bay Road, Halifax Co., N. S.
10 July 1897: 1 specimen: Harry Piers

Acc. No. 4932: (see Appendix 94, Page 78)
Golden Shiner, *Notemigonus [Abramis] chrysoleucas* (Mitchill)
Shubenacadie River at Elmsdale, Hants Co., N. S.
22 May 1920: 3 specimens: Alexander H. Leim

Acc. No. 7608: (see Appendix 136, Page 108)
Golden Shiner, *Abramis chrysoleucus* (Mitchill) of Pratt's Man. Of Vert. Animals
Notemigonus chrysoleucas (Mitchill) of Jordan, Everman & Clark's Check List
Hubbards River, Halifax Co., N. S.
18 June 1933: 1 specimen: E. S. Bringloe

Northern Redbelly Dace, *Phoxinus eos* (Cope, 1862)

Acc. No. 4930: (see Appendix 92, Page 78)
Red-bellied Dace, *Chrosomus erythrogaster*, Rafinesque
Shubenacadie River between Enfield & Milford, Halifax- Hants Co's, N. S.
August 1919: 6 specimens: Alexander H. Leim

Creek Chub, *Semotilus atromaculatus* (Mitchill, 1818)

Acc. No. 3670: (see Appendix 45, Page 52)
Horned Dace; Creek Chub, *Semotilus atromaculatus* (Mitchill)
Nictaux River near Middleton, Annapolis Co., N. S.
June 1910: 2 specimens: Dr. Frank H. Reid

Acc. No. 4931: (see Appendix 93, Page 78)
Horned Dace; Creek Chub, *Semotilus atromaculatus* (Mitchill)
Shubenacadie River at Milford, Hants Co., N. S.
August 1919: 2 specimens: Alexander H. Leim

Acc. No. 5481: (see Appendix 118, Page 94)
Horned Dace or Creek Chub, called "chub" at Musquodoboit, *Semotilus atromaculatus* (Mitchill)
Musquodoboit River near Crawford's Falls, Halifax Co., N. S.
23 June 1924: 1 specimen: H. St. Claire Silver

Fallfish, *Semotilus corporalis* (Mitchill, 1817)

Acc. No. 4605: (see Appendix 77, Page 70)
Fall-fish; Silver Chub, *Semotilus corporalis* (Mitchill) = *Semotilus bullaris* (Rafinesque)
Stream from Marsh Lake to Sackville River, Halifax Co., N. S.
5 May 1918: 1 specimen: R. Frank Eager

Catostomidae - Suckers

White Sucker, *Catostomus commersoni* (Lacepede, 1803)

Acc. No. 31: (see Appendix 1, Page 31)
Sucker, *Catostomus teres* (= *C. commersonii*)
Porters Lake, Halifax Co., N. S.
13 April 1900: 1 specimen: Purchased in market

Acc. No. 4160: (see Appendix 57, Page 57)
Common Sucker, *Catostomus commersonii* (Lacepede) = *C. teres* (Mitchill)
Nine Mile River at St. Margaret's Bay Road, Halifax Co., N. S.
3 June 1914: 1 specimen: Harry Piers

Acc. No. 4200: (see Appendix 59, Page 58)
Common Sucker, *Catostomus commersonii* (Lacepede)
Mira (probably Mira River), Cape Breton Co., N. S.
30 December 1914: 1 specimen: James Macdonald

Acc. No. 4929: (see Appendix 91, Page 77)
Common Sucker, *Catostomus commersonii* (Lacepede)
Shubenacadie River at Elmsdale, Hants Co., N. S.
August 1919: 2 specimens: Alexander H. Leim

Ictaluridae - Bullhead Catfish

Brown Bullhead, *Ameiurus nebulosus* (Lesueur, 1819)

Acc. No. 3560: (see Appendix 39, Page 48)
Horned Pout, "Catfish" (local), *Ameurus* [sic] *nebu*losus (Lesueur)
Red Bridge Pond, Dartmouth, Halifax Co., N. S.
20 May 1910: 1 specimen: Lancelot A. Purcell

Acc. No. 3570: (see Appendix 42, Page 50)
Horned Pout; Common Bullhead; "Catfish" (local), *Ameiurus* [sic] *nebulosus* (Le Sueur)
Farrell's (=Carter's) pond, part of First Dartmouth Lake, Halifax Co., N. S.
2 June 1910: 1 specimen: Lancelot A. Purcell

Osmeridae - Smelts

Rainbow Smelt, *Osmerus mordax* (Mitchill, 1815)

Acc. No. 94: (see Appendix 4, Page 32)
Smelt, *Osmerus mordax* (Mitch.)
near Halifax, Halifax Co., N. S.
3 November 1900: 1 specimen: Faders Fish Market

Acc. No. 7081: (see Appendix 128, Page 99)
American Smelt, *Osmerus mordax* (Mitchill)
north end of Grand Lake, Hants Co., N. S.
about spring of 1930: 1 specimen: Sandy McDonald

Acc. No. 7370: (see Appendix 131, Page 102)
Smelt; "Shiner" of people about Hubbards, *Osmerus mordax* (Mitchill) J. & E.
Dauphinee Mill Lake, near Hubbards, Lunenburg Co., N. S.
7 May 1932: 4 specimens: Edward S. F. Piers

Acc. No. 7815: (see Appendix 138, Page 110)
American Smelt; Frost-fish, *Osmerus mordax* (Mitchill)
Sawlor's Lake, Halifax Co., N. S.
17 June 1934: 1 specimen: Edward S. F. Piers

Salmonidae - Trouts

Atlantic (Acadian) Whitefish, *Coregonus huntsmani* Scott, 1987

Acc. No. 5225: (see Appendix 111, Page 88)
Sault White-fish, *Coregonus labradoricus,* Richardson
Millipsigate Lake, Lunenburg Co., N. S.
9 May 1923: 1 specimen: S. Edgar Marsh

Acc. No. 5454: (see Appendix 114, Page 91)
Sault Whitefish, *Coregonus labradoricus,* Richardson
Millipsigate Lake, Lunenburg Co., N. S.
5 May 1924: 1 specimen: S. Edgar Marsh

Acc. No. 5455: (see Appendix 115, Page 91)
Sault Whitefish, *Coregonus labradoricus,* Richardson
Millipsigate Lake, Lunenburg Co., N. S.
5 May 1924: 1 specimen: S. Edgar Marsh

Atlantic Salmon, *Salmo salar* Linnaeus, 1758

Acc. No. 226: (see Appendix 7, Page 33)
Land-locked salmon "Grayling" (local), *Salmo salar sebago* (Gerard)
Grand Lake, Halifax Co., N. S.
9 May 1901: 1 specimen: Frank Wiltshire

Acc. No. 4593: (see Appendix 75, Page 70)
Common Atlantic Salmon ("Grilse"), *Salmo salar,* Linnaeus
North River a few miles from Truro, Colchester Co., N. S.
25 October 1915: 1 specimen:

Acc. No. 5636: (see Appendix 121, Page 95)
Atlantic Salmon "Sand Trout" or "Gudgeon" young, parr, *Salmo salar,* Linn.
Nine-mile River where it runs in Shubenacadie River, Elmsdale, Hants Co., N. S.
25 May 1925: 1 specimen: Jerry Lonecloud

Brook Trout, *Salvelinus fontinalis* (Mitchill, 1815)

Acc. No. 3370: (see Appendix 28, Page 43)
Brook Trout, *Salvelinus fontinalis* (Mitchiull)
Little Salmon River (head of Cole Harbour), Halifax Co., N. S.
30 May 1909: 1 specimen: Simon Meaden

Acc. No. 4594: (see Appendix 76, Page 70)
Brook Trout, *Salvelinus fontinalis* (Mitchill)
Trout Lake, Colchester Co., N. S.
5 July 1917: 1 specimen: H. S. Cruikshank

Acc. No.4995: (see Appendix 101, Page 82)
Brook Trout; Lake Trout "Sea Trout", *Salvelinus fontinalis* (Mitchill)
Morris (McDonald) Lake, Halifax Co., N. S.
5 June 1921: 1 specimen: George Robert Foster

Acc. No. 5242: (see Appendix 112, Page 90)
Brook Trout, *Salvelinus fontinalis* (Mitchill)
Square Lake, Lunenburg Co., N. S.
25 May 1923: 1 specimen: E. L. McDonald

Acc. No. 5496: (see Appendix 185, Page 129)
Brook Trout, (*Salvelinus fontinalis*)
Black Brook ½ mile south of Elmsdale, Halifax Co., N. S.
18 June 1924:1 specimen; of globular white Quartz pebble in stomach: Jerry Lonecloud

Lake Trout, *Salvelinus namaycush* (Walbaum, 1792)

Acc. No. 41: (see Appendix 2, Page 31)
Salvelinus namaycush
Pockwock Lake, Halifax Co., N. S.
7 June 1901: 1 specimen: Tremaine Thompson

Acc. No. 935: (see Appendix 15, Page 36)
Great Lake Trout, *Cristovomer* [sic] *namaycush* (Wal.)
Nine Mile Lake (Sherbrooke Lake), Lunenburg Co., N. S.
4 June 1902: 1 specimen: Arthur E. Harrington

Acc. No. 1840: (see Appendix 20, Page 38)
Great Lake Trout, *Cristivomer namaycush* (Walb.)
Nine Mile Lake (Sherbrooke Lake), Lunenburg Co., N. S.
15 May 1903: 1 specimen: Col. Charles J. Macdonald

Acc. N. 3244: (see Appendix 25, Page 40)
Great Lake Trout, *Cristivomer namaycush* (Walbaum)
Dollar Lake, Halifax Co., N. S.
22 June 1908: 2 specimens: Nil

Acc. No. 7832: (see Appendix 139, Page 110)
Great Lake Trout; "Hake" or "Grayling" (local, Sherbrooke Lake);
"Pickerel" (local, Pockwock Lake, Hx. Co.), *Cristivomer namaycush* (Walbaum)
Sherbrooke Lake, Lunenburg Co., N. S.
7 & 8 July 1934: 4 specimens; heads: Edward S. F. Piers

Alepisauridae - Lancetfishes

Longnose Lancetfish, *Alepisaurus ferox* Lowe, 1833

Acc. No. 6046: (see Appendix 125, Page 98)
Lancetfish or handsawfish, *Alepisaurus ferox*, Gill
Taken on cape of Emerald Bank, Nova Scotia
14 Jul. 1927: 2 specimens; Wm. McKenzie of Schooner "Archie McKenzie"

Gadidae - Codfishes

Cusk, *Brosme brosme* (Ascanius, 1772)

Acc. N. 4059: (see Appendix 55, Page 55)
Cusk, *Brosmius brosme* (Muller)
Hubbards Cove, St. Margaret's Bay, Halifax Co., N. S.
7 July to 4 August 1913: 10 specimens: Edward S. F. Piers

Fourbeard Rockling, *Enchelyopus cimbrius* (Linnaeus, 1766)

Acc. No. 241: (see Appendix 8, Page 33)
Four-bearded Rockling, *Enchelyopus cimbrius* (Linn.) (=*Rhinonemus cimbrius*)
North West Arm, Halifax Co., N. S.
17 May 1901: 1 specimen: A. Wilson & Son

Atlantic Cod, *Gadus morhua* Linnaeus, 1758

Acc. No. 3724: (see Appendix 49, Page 53)
Cod-fish, *Gadus collarias* [sic], Linn.
near Halifax, Halifax Co., N. S.
June 1911: 1 specimen: Unknown

Acc. No. 4498: (see Appendix 66, Page 63)
Cod-fish, *Gadus collaris* [sic]
off Shag Bay, Halifax Co., N. S.
about 24 April 1917: two small bones, cranial cavity: D. Coolin

Acc. No. 8927: (see Appendix 190, Page 131)
Cod-fish, *Gadus collarias* [sic], L.
No doubt from off Halifax Co., N. S.
Received 21 October 1937: 6 specimens; otoliths, probably 3 pairs: Purchased from Mrs. R.F. Eagar

Silver Hake, *Merluccius bilinearis* (Mitchill, 1814)

Acc. No. 3425: (see Appendix 29, Page 44)
Silver Hake; Whiting, *Merluccius bilinearis* (Mitchill)
North West Arm, Halifax Co., N. S.
14 September 1909: 1 specimen: Edward S. F. Piers

Cyprinodontidae - Killifish

Banded Killifish, *Fundulus diaphanus* (Lesueur, 1817)

Acc. No. 3537: (see Appendix 30, Page 44)
"Minnow" (local), *Fundulus diaphanus* (Le Sueur)
Cole Harbour, Halifax Co., N. S.
15 April 1910: 13 specimens: Purchased in market

Acc. No. 3562: (see Appendix 41, Page 49)
"Minnow" (local), *Fundulus diaphanus*
Little Salmon River, Halifax Co., N. S.
20 May 1910: 14 specimens: Purchased in market

Acc. No. 4266: (see Appendix 64, Page 62)
Freshwater Killifish; Freshwater Minnow, *Fundulus diaphanus* (Le Sueur)
Dauphinee Beach, Hubbards, Halifax Co., N. S.
26 July 1915: 200 specimens: Edward S. F. Piers

Acc. No. 4501: (see Appendix 67, Page 64)
Freshwater Minnow; Freshwater Killifish, *Fundulus diaphanus ?* (Le Sueur)
in inner part of Cole Harbour, Halifax Co., N. S.
4 May 1917: 25 specimens: Purchased in market

Acc. No. 4935: (see Appendix 97, Page 80)
Gray-back Minnow; Killifish; Freshwater "Minnow", *Fundulus diaphanus* (Le Sueur)
Shubenacadie River at Milford, Hants Co., N. S.
August 1919: 3 specimens: A. H. Leim

Atherinidae - Silversides

Atlantic Silverside, *Menidia menidia* (Linnaeus, 1766)

Acc. No. 4502: (see Appendix 68, Page 64)
Common Silverside called "Sprat" by man who had them in market,
Menidia menidia notata (Mitchill)
Cole Harbour, Halifax Co., N. S.
4 May 1917: 48 specimens: Purchased from Cole Harbour man

Gasterosteidae - Sticklebacks

Fourspine Stickleback, *Apeltes quadracus* (Mitchill, 1815)

Acc. No. 4017: (see Appendix 54, Page 55)
Four-spined Stickleback, *Apeltes quadracus* (Mitchill)
North West Arm, Halifax Co., N. S.
1 July 1913: 6 specimens: Edward S. F. Piers

Threespine Stickleback, *Gasterosteus aculeatus* Linnaeus, 1758

Acc. No. 3547: (see Appendix 34, Page 46)
Common Eastern Stickleback (locally sometimes called "Thorn-fish"),
Gasterosteus bispinosus bispinosus Walbaum
in canal under bridge Dartmouth, Halifax Co., N. S.
29 & 30 April 1910: 65 specimens: Lancelot A. Purcell

Acc. No. 4786: (see Appendix 88, Page 76)
Gasterosteus gladiunculus, Kendall
Sissiboo River, St. Mary's Bay, Digby Co., N. S.
30 June 1919: 5 specimens: Dr. Philip Cox

Ninespine Stickleback, *Pungitius pungitius* (Linnaeus, 1758)

Acc. No. 3561: (see Appendix 40, Page 49)
Nine-spined Stickleback, *Pygosteus pungitius* (Linn.)
Little Salmon River, Halifax Co., N. S.
19 May 1910: 1 specimen: Lancelot A. Purcell

Acc. No. 4675: (see Appendix 85, Page 74)
Nine-spined Stickleback, *Pygosteus pungitius* (Linnaeus)
Skating Pond Brook at Indian Reservation 1 mile southeast of Elmsdale Station, Halifax Co., N. S.
13 November 1918: 1 specimen: Jerry Lone-cloud

Fistulariidae - Cornetfishes

Bluespotted Cornetfish, *Fistularia tabacaria* Linnaeus, 1758

Acc. No. 4227: (see Appendix 61, Page 59)
Trumpet-fish, *Fistularia petimba,* Lacepede (= *Fistularia serrata,* Cuvier)
Little Hope Lighthouse Station, near Port Mouton, Queens Co., N. S.
5 September 1914:1 specimen: Reuben Colp

Syngnathidae - Pipefishes

Northern Pipefish, *Syngnathus fuscus* Storer, 1839

Acc. No. 243: (see Appendix 9, Page 34)
Common Pipe-fish, *Siphostoma fuscum* (Storer)
Cow Bay, Hx. Co., N. S.
17 May 1901: 2 specimens: Purchased in market

Acc. No. 2169: (see Appendix 22, Page 39)
Common Pipe-fish, *Siphostoma fuscum* (Storer)
Whycocomagh Bay, Bras d'Or Lake, Inverness Co., N. S.
July 1903: 1 specimen: Richard H. Brown

Acc. No. 3369: (see Appendix 27, Page 41)
Common Pipe-fish, *Siphostoma fuscum* (Storer)
Melville Island Cove, North West Arm, Halifax Co., N. S.
11 May 1909: 1 specimen: Arnold Smith

Acc. No. 3558: (see Appendix 37, Page 48)
Common Pipefish, *Siphostoma fuscum* (Storer)
Mill Cove, Bedford Basin, Halifax Co., N. S.
16 May 1910: 1 specimen: Lancelot A. Purcell

Acc. No. 3559: (see Appendix 38, Page 48)
Common Pipefish, *Siphostoma fuscum* (Storer)
Mill Cove, Bedford Basin, Halifax Co., N. S.
16 May 1910: 1 specimen: Lancelot A. Purcell

Acc. No. 4013: (see Appendix 53, Page 55)
Pipefish, *Siphostoma* sp. (Related to *S. fuscum*; or a variety of that species)
North West Arm, Halifax Co., N. S.
7 June 1913: 1 specimen: Edward S. F. Piers

Acc. No. 4538: (see Appendix 72, Page 67)
Common Pipe-fish, *Siphostoma fuscum* (Storer)?
Hubbards Cove, St. Margaret's Bay, Halifax Co., N. S.
31 July 1917: 1 specimen: Edward S. F. Piers

Acc. No. 4616: (see Appendix 78, Page 71)
Common Pipefish, *Siphostoma fuscum* (Storer)? variety
Jollimore, North West Arm, Halifax Co., N. S.
17 June 1918: 1 specimen: W. B. McIlreith

Acc. No. 4636: (see Appendix 82, Page 73)
Common Pipe-fish (variety), *Siphostoma fuscum* (Storer)? variety
Hubbards Cove, St. Margaret's Bay, Halifax Co., N. S.
25 July 1918; 1 specimen; Edward S. F. Piers

Acc. No. 4637: (see Appendix 83, Page 74)
Common Pipe-fish (variety), *Siphostoma fuscum* (Storer)? variety
Hubbards Cove, St. Margaret's Bay, Halifax Co., N. S.
25 July 1918; 1 specimen; Edward S. F. Piers

Acc. No. 7213: (see Appendix 129, Page 100)
Common Pipe-fish, *Siphostoma fuscum* (Storer) or variety, or related form
Long Cove, Bedford Basin, Halifax Co., N. S.
15 July 1931; 1 specimen; David Murray

Acc. No. 7214: (see Appendix 130, Page 101)
Common (?) Pipe-fish, *Siphostoma fuscum* (Storer) or variety, or related form
Halifax Harbour, Halifax Co., N. S.
23 July 1931; 1 specimen; Edward S.F. Piers

Acc. No. 7524: (see Appendix 134, Page 107)
Northern Pipefish, *Siphostoma fuscum* (Storer) = *Siphostoma fuscus,* Storer. Probably a variety (?) or related form
Back Harbour, Chester, Lunenburg Co., N. S.
about 10 August 1932; 1 specimen; George MacDonald

Cottidae - Sculpins

Sea Raven, *Hemitripterus americanus* (Gmelin, 1759)

Acc. No. 5021: (see Appendix 104, Page 84)
Sea Ravin, *Hemitripterus americanus* (Gmelin)
North West Arm, Halifax Co., N. S.
22 August 1921; 1 specimen; Charles Allen

Cyclopteridae - Lumpfishes and Snailfishes

Lumpfish, *Cyclopterus lumpus* Linnaeus, 1758

Acc. No. 2696: (see Appendix 23, Page 39)
Lump-sucker; Lump-fish, *Cyclopterus lumpus,* L.
Halifax Harbour, Halifax Co., N. S.
26 August 1904; 1 specimen; Edward McLeod

Acc. No. 5347: (see Appendix 113, Page 91)
Lumpfish; Lump-sucker, *Cyclopterus lumpus,* Linn.
Northwest Arm, at Jollimore, Hx. Co., N. S.
11 Oct. 1923; 1 specimen; Wm. MacIlreith

Percichthyidae - Temperate Basses

White Perch, *Morone americana* (Gmelin, 1788)

Acc. No. 224: (see Appendix 6, Page 32)
White Perch, *Morone americana*
Cole Harbour (fresh water), Hx. Co., N. S.
2 May 1901; 1 specimen; Chas. Morash

Acc. No. 272: (see Appendix 10, Page 34)
White Perch, *Morone americana* (Gmelin)
near Cow Bay, Halifax Co., N. S.
23 May 1901; 4 specimens; purchased in market

Acc. No. 926: (see Appendix 14, Page 35)
White Perch, *Morone americana* (Gmelin)
Cole Harbour, Halifax Co., N. S.
30 May 1902; 1 specimen; purchased in market

Acc. No. 3588: (see Appendix 43, Page 50)
White Perch, *Morone americana* (Gmelin)
Cow Bay Pond, Halifax Co., N. S.

5 August 1910; 4 specimens; purchased in market

Acc. No. 5480: (see Appendix 117, Page 93)
White Perch, *Morone americana* (Gmelin)
Musquodoboit River near Crawford's Falls, Halifax Co., N. S.
23 June 1924; 1 specimen; H. St.Claire Silver

Acc. No. 7428: (see Appendix 132, Page 103)
White Perch, *Morone americana* (Gmelin)
Lake Mattatall, Cumberland Co., N. S.
21 June 1932; 1 specimen; Dr. C. H. Craig

Acc. No. 7609: (see Appendix 137, Page 109)
White Perch, *Morone americana* (Gmelin)
Sawlor's Lake, Hubbards, Halifax Co., N. S.
19 June 1933; 1 specimen; Edward S. F. Piers

Acc. No. 7913: (see Appendix 141, Page 112)
White Perch, *Morone americana* (Gmelin)
Sawlor's Lake, Hubbards, Halifax Co., N. S.
26 August 1934; 5 specimens; Edward S. F. Piers

Acc. No. 8437: (see Appendix 145, Page 115)
White Perch, *Morone americana* (Gmelin)
Sawlor's Lake, Hubbards, Halifax Co., N. S.
3 May 1936; 1 specimen; Edward S. F. Piers

Striped Bass, *Morone saxatilis* (Walbaum, 1792)

Acc. No. 3723: (see Appendix 48, Page 53)
Striped Bass, *Roccus loneatus*, (Bloch)
Canso, Guysborough Co., N. S.
July 1911; 1 specimen; an Indian fisherman

Acc. No. 5014: (see Appendix 103, Page 84)
Striped Bass, *Roccus lineatus* (Bloch)
Shubenacadie River, at Black Rock, Col. Co., N. S.
20 May 1921; 1 specimen; Mr. McNutt

Percidae - Perches

Yellow Perch, *Perca flavescens* (Mitchill, 1814)

Acc. No. 3713: (see Appendix 47, Page 52)
Yellow Perch, *Perca flavescens* (Mitchill)
Grand Lake, Halifax Co., N. S.
10 June 1911; 1 specimen; John Hallett

Acc. No. 4936: (see Appendix 98, Page 80)
Yellow Perch, *Perca fluviatilis,* Linn.[= *P. flavescens* (Mitchill)]
Shubenacadie River at Milford, Hants Co., N. S.
August 1919; 1 specimen; Alexander H. Leim

Acc. No. 5479: (see Appendix 116, Page 93)
Yellow Perch, *Perca flavescens* (Mitchill)
Musquodoboit River near Crawford's Falls, Halifax Co., N. S.
23 June 1924; 2 specimens; H. St. Claire Silver

Carangidae - Jacks

Atlantic Moonfish, *Selene setapinnis* (Mitchill,1815)

Acc. No. 8587: (see Appendix 148, Page 117)
Horse-head; Look-down, Moonfish, *Vomer setipinnis,* Mitchill
Stonehurst, southwestern side of entrance to Mahone Bay, Lunenburg Co., N. S.
27 August 1936; 1 specimen; Earl Levy

Coryphaenidae - Dolphins

Dolphin, *Coryphaena hippurus* Linnaeus, 1758

Acc. No. 357: (see Appendix 13, Page 35)
Common Dolphin, *Coryphaena hippurus,* Linn.
Mouth of Parker's Brook, Bedford Cove, Bedford Basin, Halifax Co., N. S.
7 August 1901;1 specimen; children of Harold S. Silver

Labridae - Wrasses

Tautog, *Tautogo onitis* (Linnaeus, 1758)

Acc. No. 950: (see Appendix 16, Page 36)
Tautog; Black-fish, *Tautoga onitis* (Linn.) (=*Hiatula onitis*)
Scotts Bay, Bay Of Fundy, Kings Co., N. S.
12 June 1902; 1 specimen; T. Vardy Hill

Acc. No. 1845: (see Appendix 21, Page 38)
Tautog, *Tautoga onitis,* (Linn.) (=*Hiatula onitis*)
Petpeswick Inlet, Halifax Co., N. S.
21 May 1903; 1 specimen; purchased in market

Ammodytidae - Sand Lances

American Sand Lance, *Ammodytes americanus* DeKay, 1842

Acc. No. 6690: (see Appendix 127, Page 99)
Sand Lance; Sand Launce; Sand Eel; Lant, *Ammodytes americanus,* DeKay J. & E. p.833
near Mauger's Lighthouse Beach, McNab's Island, Halifax Harbour, Halifax Co., N. S.
13 July 1930; 1 specimen; Mrs. E. Harrigan

Scombridae - Mackerels

Atlantic Bonito, *Sarda sarda* (Bloch, 1793)

Acc. No. 1066: (see Appendix 18, Page 37)
Bonito, *Sarda sarda,* Cuvier
Upper Prospect, Halifax Co., N. S.
17 October 1902; 1 specimen; Joseph Doherty

Albacore, *Thunnus alalunga* (Bonnaterre, 1788)

Acc. No. 5146: (see Appendix 107, Page 86)
Long-finned Albacore, *Germo alalunga* (Gmelin)
off Devil's Island, Halifax Co., N. S.
8 September 1922; 1 specimen; examined at fish market [not in collection]

Bluefin Tuna, *Thunnus thynnus* (Linnaeus, 1758)

Acc. No. 4633: (see Appendix 81, Page 73)
Tunny; Horse Mackerel; Great Albacore, *Thunnus thynnus* (Linn.)
off Hubbards, St. Margaret's Bay, Halifax Co., N. S.
July 1918; 1 specimen (vertebrae); Lawson Harnish

Acc. No. 7858: (see Appendix 188, Page 130)
Albacore, *Thunnus secundodorsalus,* Storer
off Hubbards, St. Margaret's Bay, Halifax Co., N. S.
About middle of August 1934; 2 specimens (photographs); Geo. Gannin

Acc. No. 7945: (see Appendix 189, Page 131)
Great Albacore or Tuna, *Thunnus thynnus,* Linn. (*T. secundodorsalis*, Storer)
Hubbards Cove, west side St. Margaret's Bay, Lunenburg Co., N. S.
16 September 1934; 12 photographs; Edward S. F. Piers

Xiphiidae - Swordfish

Swordfish, *Xiphias gladius* Linnaeus, 1758

Acc. No. 158 & 159: (see Appendix 5, Page 32)
Sword-fish, *Xiphias gladius,* L.
Sable Island, N. S.
About 1890; 1 specimen (sword); purchased both for 15 cents

Acc. No. 1090: (see Appendix 19, Page 37)
Swordfish, *Xiphias gladius,* L.
Cole Harbour, Halifax Co., N. S.
5 November 1902; 1 specimen; Harry Piers

Acc. No. 3549: (see Appendix 35, Page 47)
Common Sword-fish, *Xiphias gladius,* Linn.
Lockeport, Shelburne Co., N. S.
29 August 1909; 1 specimen (sword); Thos. M. Fraser

Acc. No. 4273: (see Appendix 65, Page 63)
Common Swordfish, *Xiphias gladius* Linn.
off Hubbards, St. Margaret's Bay, Halifax Co., N. S.
5 August 1915; 2 specimens (swords); Freeman & Gilbert Harnish

Acc. No. 4712: (see Appendix 87, Page 75)
Common Swordfish, *Xiphias gladius,* Linn.
off Shad Bay, Halifax Co., N. S.
summer 1915; 1 specimen (sword); D. Coolin

Pleuronectidae - Righteye Flounders

Winter Flounder, *Pleuronectes americanus* Walbaum, 1792

Acc. No. 276: (see Appendix 11, Page 34)
Flatfish, *Pseudopleuronectes americana* (Wal.), or *Liopsetta glacialis* (Pal.)
near Cow Bay, Halifax Co., N. S.
29 May 1901; 1 specimen; purchased in market

Acc. No. 277: (see Appendix 12, Page 35)
Flatfish, *Pseudopleuronectes americana*
near Cow Bay, Halifax Co., N. S.
29 May 1901; 1 specimen; purchased in market

Acc. No. 3545 & 3546: (see Appendix 32 & 33, Page 45)
Common Flatfish; "Flatfish" (local), *Pseudopleuronectes americanus* (Walbaum)
Eastern Passage, Halifax Co., N. S.
29 April 1910; 2 specimens; purchased in market

Yellowtail Flounder, *Pleuronectes ferruginea* (Storer, 1839)

Acc. No. 5176: (see Appendix 110, Page 88)
Rusty Dab; marketed locally under the name "Sole", *Limanda ferrugineus* (Storer)
off Halifax Harbour, Halifax Co., N. S.
8 November 1922; 2 specimens; purchased in fish market

Smooth Flounder, *Pleuronectes putnami* (Gill, 1864)

Acc. No. 4827: (see Appendix 89, Page 76)
Eel-back Flounder, *Liopsetta putnami* (Gill)
near Halifax, Halifax Co., N. S.
about 4 January 1920; 1 specimen; purchased in fish market among Smelts

Balistidae - Leatherjackets

Gray Triggerfish, *Balistes capriscus* Gmelin, 1789

Acc. No. 3601: (see Appendix 44, Page 51)
Leather-jacket; Trigger-fish, *Balistes carolinensis,* Gmelin (= *B. capriscus,*Gmelin)
Halifax Harbour, Halifax Co., N. S.
25 August 1910; 1 specimen; Thomas Henneberry

Acc. No. 4109: (see Appendix 56, Page 56)
Leather-jacket; Trigger-fish, *Balistes carolinensis,* Gmelin
Admiral Rock, Bedford Basin, Halifax Co., N. S.
20 August 1912; 1 specimen; Alexander Griswold

Acc. No. 8313: (see Appendix 144, Page 115)
Trigger-fish; Leather-jacket, *Balistes carolinensis,* Gmelin
Lawlor's Island, Eastern Passage, Halifax Co., N. S.
24 October 1935; 1 specimen; Samuel Dowinton

Planehead Filefish, *Monacanthus hispidus* (Linnaeus, 1766)

Acc. No. 5155: (see Appendix 109, Page 87)
Fool Fish; File Fish, *Monacanthus hispidus* (linnaeus)
near Bald Rock, about 1 mile south of Prospect, Halifax Co., N. S.
20 September 1922; 1 specimen; John and William Hardeman

V. APPENDICES

Fishes Accessioned by Harry Piers

The following Appendices (Appendices 1 through 148) represent all of the fish specimens recorded verbatim in chronological order as they occur in the accession books of Harry Piers: Appendix 1 is Museum No. 31 (Sucker, Porters Lake, Halifax Co., 13 April 1900) being the first fish accessioned and Appendix 148 is Museum No. 8587 (Moonfish, Stonehurst, Lunenburg Co., 27 August 1936) being the last. Additional appendices (149 to 191) represent fish-related items. For example, Appendix 162 provides details of Museum No. 556, fossil fish remains from Horton Bluff, Kings Co. Collected 13 August 1901.

Piers frequently abbreviated words, and in some cases shortened them to a single letter. He also omitted words. For example, in his descriptions instead of writing, dorsal fin rays = 12, he would write: "D. 12" or "dorsal, 12". In such cases, to make it easier for the non-ichthyologist, I have inserted in brackets my interpretation of the abbreviation or letter. Piers's punctuation varied over the years. For example in 1900, under the heading **Scientific Name.**, he did not place a period following the name given. He did place a period after the name given in other years. Each appendix is a direct quote from Mr. Piers's accession books as I have interpreted them. It is interesting to note Piers used "Accession No." and "Museum No." interchangeably. In some accessions Piers included a sketch and these were photographed and assigned a figure number and plate number. All rough sketches, draft notes and correspondence relating to an accession have also been photographed and assigned a figure number and plate number.

Appendix I: Accession Book No. I; Page 2; Museum No. 31

Museum No. 31
Scientific Name. *Catostomus teres* (=*C. commersonii*)
Common Name. Sucker
Phylum, &c. [none given]
Locality and when collected. Porter's Lake, Hx. [Halifax] Co., N.S.: Ap. [April] 13, 1900
Collector (c) and Donor (d). Purchased in market
Received. Ap. 14, 1900
No. of specimens. 1
Remarks. No. 31.- Lat. [Lateral] Line, 66; scales from lat. line to front of dorsal, 11; scales from lat. line to vent, 9. Dorsal [fin], 12 rays (or 13 if 1st short semi-ray is counted). Head 4 1/4 in length; depth 4 1/4. Ventral [fin], 10 rays. Length 12 3/4 ins. Sides faint rosy; head bluish black with yellowish on opercle.

Appendix 2: Accession Book No. I; Page 2; Museum No. 41

Museum No. 41
Scientific Name. *Salvelinus namaycush*
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Pockwock Lake, Hammond's Plains, Hx. [Halifax] Co., N.S. June 7, 1901
Collector (c) and Donor (d). Tremaine Thompson (c.d.)
Received. June 8, 1901
No. of Specimens. 1
Remarks. Sketch & description made

Appendix 3: Accession Book No. I; Page 4; Museum No. 67

Museum No. 67
Scientific Name. *Acipenser sturio* var. [variety] *oxyrhynchus*
Common Name. Common (American) Sturgeon
Phylum, &c. [none given]
Locality and when collected. Shubenacadie River, about 1 ½ miles from Grand Lake. About last of August, about 1896
Collector (c) and Donor (d). Speared by Alex. Horne, Enfield, N.S. & loaned by him.
Received. Sept. 15, 1900
No. of Specimens. 1
Remarks. Weight when taken 163 lbs. Total length as preserved 7 ft. 5 in. Length of last dorsal plate 3 in. Length of 2nd. last dorsal plate 5 in. No. of dorsal plates 11. No. of lateral plates 24 or 25 on right side, 26 or 27 on left side. No. of ventral plates; left side 9, right side 10; followed by single

row of about 4 (?) [sic] plates between ventrals & anal. Preserved, Horne says, in salt, turpentine, acids (?) [sic] etc. All of interior removed, varnished outside.

Appendix 4: Accession Book No. I; Page 6. Museum No. 94

Museum No. 94
Scientific Name. *Osmerus mordax* (Mitch.) [Mitchill]
Common Name. Smelt
Phylum, &c. [none given]
Locality and when collected. Near Halifax, N.S. Nov. 3, 1900
Collector (c) and Donor (d). Faders fish market
Received. Nov. 3, 1900
No. of Specimens. 1
Remarks. Pectoral [fin] 12 [rays]; D. [dorsal fin] 11 [rays]; A. [anal fin] 16 [rays]; lat. [lateral] line about 66 [scales].

Appendix 5: Accession Book No. I; Page II. Museum No. 158 and 159

Museum No. 158 and 159
Scientific Name. Sword of *Xiphias gladius,* L. [Linnaeus]
Common Name. Sword-fish
Phylum, &c. [none given]
Locality and when collected. Sword found on western track of Sable Island, N.S.: about 1890
Collector (c) and Donor (d). Purchased [both] for .15 cents
Received. Mar. 20, 1901
No. of Specimens. 2 [swords]
Remarks. Imperfect

Appendix 6: Accession Book No. I; Page I4. Museum No. 224

Museum No. 224
Scientific Name. *Morone americana*
Common Name. White perch
Phylum, &c. [none given]
Locality and when collected. Cole Harbour (fresh water), Hx. Co., May 2/01
Collector (c) and Donor (d). Chas. [Charles] Morash (c.d.)
Received. May 4, 1901
No. of Specimens. 1
Remarks. [none given]

Appendix 7: Accession Book No. I; Page I5. Museum No. 226

Museum No. 226
Scientific Name. *Salmo salar sebago* (Girard)
Common Name. Land-locked Salmon "Grayling" (local)
Phylum, &c. [none given]
Locality and when collected. Grand Lake, Hx. Co.; May 9/01
Collector (c) and Donor (d). Frank Wiltshire (c.d.) of Bedford
Received. May 11, 1901
No. of Specimens. 1
Remarks. Drawing filed. Measurements:- Head in length (to end of last vertebrae) 4 1/4 = 2.85in. Depth in ditto [length] 4 3/4 = 2.55in. Length, snout to end of caudal, 14.50in. Length, snout to end of vertebrae, 12.10in. Length, snout to end of scales, 12.60in. Weight, 12oz.
Last week in April best time to fish for this species (Bradley)
Note.- The extreme weight of this variety (actually weighed by Mr. Wiltshire, who has caught very many) was 3 ½ lbs. The average weight he says is about 1 ½ lbs. He has taken it at head of tide waters in Shubenacadie River, 3 miles from Grand Lake. Also, he says, found in all the Beaver Bank Lakes it can get into, and in lakes this side of Waverley. Not found elsewhere in Nova Scotia. He thinks it may possibly be in some way destructive to Trout, as the latter are very rare in Grand Lake.

Appendix 8: Accession Book No. I; Page I5. Museum No. 241

Museum No. 241
Scientific Name. *Enchelyopus cimbrius (= Rhinonemus cimbrius)*
Common Name. Four-bearded Rockling
Phylum, &c. [none given]
Locality and when collected. North West Arm, Hx.; May 17/01.
Collector (c) and Donor (d). A. Wilson & Son, Hx. (c.d.)
Received. May 17, 1901
No. of Specimens. 1
Remarks. Rays of long dorsal 50; 1st. dorsal band of fringe preceded by one ray. Wilson says " our fishermen say they never saw one like it in our waters".

Appendix 9: Accession Book No. I; Page 16. Museum No. 243

Museum No. 243
Scientific Name. *Siphostoma fuscum* (Storer).
Common Name. Common Pipe-fish
Phylum, &c. [none given]
Locality and when collected. Cow Bay, Hx. Co.; May 17/01
Collector (c) and Donor (d). Purchased in market (alive)
Received. May 18, 1901
No. of Specimens. 2
Remarks. In lobster trap. Dorsal of one counted had 42 rays. May warrant colour examination. See notes under 7214.

Appendix 10: Accession Book No. I; Page 17. Museum No. 272

Museum No. 272
Scientific Name. *Morone americana* (Gmelin)
Common Name. White Perch
Phylum, &c. [none given]
Locality and when collected. Near Cow Bay (Cole Har.?) [Cole Harbour], Hx. Co.; May 23/01
Collector (c) and Donor (d). Purchased in market (.10 [cents])
Received. May 25, 1901
No. of Specimens. 4
Remarks. Fin rays: D [Dorsal] IX- I, 12; A [Anal] III,9

Appendix 11: Accession Book No. I; Page 17. Museum No. 276

Museum No. 276
Scientific Name. *Pseudopleuronectes americana* (Wal.) [Walbaum], or *Liopsetta glacialis* (Pall.) [Pallas]
Common Name. (Flatfish)
Phylum, &c. [none given]
Locality and when collected. On sandy bottom, near Cow Bay, Hx. Co.; May 29/01.
Collector (c) and Donor (d). Purchased in market (.10 [cents])
Received. June 1, 1901
No. of Specimens. 1
Remarks. Dorsal [fin]61[rays]; Anal 46. Head 4 times in length. Depth 2 1/3 times in length. Length 11 inches.

Appendix 12: Accession Book No. 1; Page 17. Museum No. 277

Museum No. 277
Scientific Name. *Pseudopleuronectes americana* (Wal.), or *Liopsetta glacialis* (Pal.)
Common Name. (Flatfish)
Phylum, &c. [none given]
Locality and when collected. On sandy bottom, near Cow Bay, Hx. Co.; May 29/01.
Collector (c) and Donor (d). Purchased in market (.10 [cents])
Received. June 1, 1901
No. of Specimens. 1
Remarks. Dorsal[fin] 62[rays]; Anal 49. Head 4 times in length. Depth 2 1/3 times in length. Length 11.75 inches.

Appendix 13: Accession Book No. 1; Page 23. Museum No. 357

Museum No. 357
Scientific Name. *Coryphaena hippurus* Linn. [Linnaeus] (young)
Common Name. Common Dolphin
Phylum, &c. [none given]
Locality and when collected. Mouth of Parker's Brook, Bedford Cove, Bedford Basin, Hx.[Halifax] Co.;Aug. 7, 1901
Collector (c) and Donor (d). Captured by hand (!) by children of Harold S. Silver. Harold S. Silver (d.)
Received. Aug. 8, 1901
No. of Specimens. 1
Remarks. Total length 19.20 in. Dorsal 61 rays, Anal 30. Possibly injured by Fish Hawk as dorsal fin was torn. A parasite (*Penella*) penetrated side. This is the first record of this species being taken in Nova Scotia.

Appendix 14: Accession Book No. 1; Page 56. Museum No. 926

Museum No. 926
Scientific Name. *Morone americana* (Gmelin)
Common Name. White Perch
Phylum, &c. [none given]
Locality and when collected. Cole Harbour, Hx. Co., N.S. (In fresh water); May 30, 1902
Collector (c) and Donor (d). Purchased in market (.10 [cents])
Received. May 31, 1902
No. of Specimens. 1
Remarks. Large specimen, 12.50 in. long. Under side of lower jaw, deep Lavender approaching Lilac colour.

Appendix 15: Accession Book No. I; Page 56. Museum No. 935

Museum No. 935
Scientific Name. *Cristovomer namacush* (Walb.) ? (Compare with No. 1840)
Common Name. Great Lake Trout
Phylum, &c.: [none given]
Locality and when collected. Nine-mile [Sherbrooke] Lake, northwestern part of Lunenburg Co., N.S.; June 4, 1902
Collector (c) and Donor (d). Arthur E. Harrington (d.)
Received. June 6, 1902
No. of Specimens. 1
Remarks. Said never to rise to a fly; caught by deep fishing with bait. Sometimes go into Wentzell Lake. Locally, I think, called "Silver Grey Trout".

Note.- Head 4 1/4 times in total length; depth 5 in length. Weight 3 3/4 lbs. Branchiostegals 13 (or possibly 12). Lateral line 185 (1st. count) or 187 (2nd. count);38 scales from lateral line to back (2 counts); 46 or 47 scales from lateral line to belly (2 counts). Gill rakers 12 or 11 below, 6 or 7 above; longest gill raker .25 in. First dorsal fin of 14 rays (1st. ray about .50 in. long; 2nd. ray 1.00 long, 3rd. ray 2.20 in. long, 4th. ray 2.75 in. long or to greatest height of fin); before the 1st. ray as above referred to, may be an excessively rudimentary ray, possibly .20 in. long. Anal fin of 11 rays (the 3rd. or 4th. going to front of greatest height of fin); before the first ray may be an excessively rudimentary ray.

Colour:- Dorsal mottled. Very faint indications of what may have been spots on sides, 3 and 4 scales in size. Pectorals & ventrals reddish on outer posterior margin. Mr. Harrington says that the fish is reported to have red spots on the sides when first taken from the water, but these soon die out.

Large teeth on front of tongue; small teeth on back of tongue.

Reference: Figure 10, Plate 11. Line drawing of upper part of mouth of Great Lake Trout from Nine-mile [Sherbrooke] Lake, Lun. Co., N.S. by Harry Piers (Museum No. 935, Negative Number 12,439)

Appendix 16: Accession Book No. I; Page 57. Museum No. 950

Museum No. 950
Scientific Name. *Tautoga onitis* (Linn.) (= *Hiatula onitis*). J. & E., p. 1578; fig. 596
Common Name. Tautog; Black-fish
Phylum, &c.: [none given]
Locality and when collected. Scott's Bay, Bay of Fundy, Kings Co., Nova Scotia; June 12, 1902.
Collector (c) and Donor (d). T. Vardy Hill (c.d.)
Received. June 14, 1902
No. of Specimens. 1
Remarks. New to Nova Scotia! Length 19.50 in. D. [dorsal fin] XVII,10; A. [anal fin] III,8; V. [ventral fin] I,5. No teeth on vomer; no slit behind 4th gill; gill membrane free from the isthmus.

Appendix 17: Accession Book No. 1; Page 60. Museum No. 984

Museum No. 984
Scientific Name. *Squalus acanthias,* Linn.
Common Name. Dogfish; young with remains of yolk-sac
Phylum, &c.: [none given]
Locality and when collected. North West Arm, Hx.; Aug. 7,1902
Collector (c) and Donor (d). Purchased (.25)
Received. Aug. 9, 1902
No. of Specimens. 4
Remarks. Cut out of the mother fish (which was about 3 ½ ft. long). 5 young originally, but one lost.

Appendix 18: Accession Book No. 1; Page 65. Museum No. 1066

Museum No. 1066
Scientific Name. *Sarda sarda,* Cuvier
Common Name. Bonito
Phylum, &c.: [none given]
Locality and when collected. In net Upper Prospect, Hx. Co; Oct. 17, 1902
Collector (c) and Donor (d). Joseph Doherty (c.d.). Prospect
Received. Oct. 18, 1902
No. of Specimens. 1
Remarks. Length 22 in. depth 4.75 in.; head 5 ½ in.; 8 stripes on side, extending below lateral line. Gill Rakers about 17. 1st dorsal 21 rays, 2nd dorsal, 13 or 14, finlets 8. Vomer toothless; palatines with a single row of rather strong, conical teeth.

Appendix 19: Accession Book No. 1; Page 67. Museum No. 1090

Museum No. 1090
Scientific Name. *Xiphias gladius,* L.
Common Name. Swordfish
Phylum, &c. [none given]
Locality and when collected. Cole Harbour, Hx. Co.; Nov. 5,1902
Collector (c) and Donor (d). H. Piers (c.)
Received. Nov. 8, 1902
No. of Specimens. 1: Drawing with measurements, of Swordfish
Remarks. Got into channel and tried to go out wrong way. Was brought up to Beazely & Henrion's fish market, Halifax, where I examined it.

Reference: Figure 11, Plate 11. A sketch including measurements of a Swordfish from Cole Harbour by Harry Piers (Museum No. 1090, Neg. No. 23,506).

Appendix 20: Accession Book No. I; Page 112. Museum No. 1840

Museum No. 1840
Scientific Name. *Cristivomer namaycush* (Walb.)
Common Name. Great Lake Trout
Phylum, &c.: [none given]
Locality and when collected. Nine Mile [Sherbrooke} Lake (about 10 miles westward of New Ross), back part of Lunenburg Co., N.S.; May 12, 1903
Collector (c) and Donor (d). Col. Charles J. Macdonald (c.d.) post-office inspector, Hx.
Received. May 15, 1903
No. of Specimens. 1
Remarks. Right side 1st gill arch given to Hx. Fish. Exper.[Experimental] Station, 2 June 1933. Compare with no. 41, 935 & 3244

Appendix 21: Accession Book No. I; Page 112. Museum No. 1845

Museum No. 1845
Scientific Name. *Tautoga onitis* (Linn.) (= *Hiatula onitis*)
Common Name. Tautog
Phylum, &c.: [none given]
Locality and when collected. Petpiswick [Petpeswick], Hx. Co., N.S.; May 21, 1903. In salt water
Collector (c) and Donor (d). Purchased in market (.35 [cents])
Received. May 23, 1903
No. of Specimens. 1
Remarks. Dor.[dorsalfin] XVI, 10; Anal [fin] III,7; Ventral [fin]I, 5; Pectoral [fin] 16. Length to base of caudal 13 1/8 ins., to end of caudal 15 ins. Head in length 3 1/4, depth in length 3, eye 6 in head. Scales from lat. [lateral] line to dorsal 16, scales in dorsal line 65, scales from lat. line to vent 32. No teeth on vomer, no slit behind 4th gill. Iris yellow & brown. General colour rather dark.

N. B. This is only the second time this species has been noted in Nova Scotia (see no. 950). Another Specimen, about 19 inches long was also in the market today from the same place & taken same time. The women who had them called them "Black Bass".

Appendix 22: Accession Book No. I; Page 133. Museum No. 2169

Museum No. 2169
Scientific Name. *Siphostoma fuscum* (Storer) Female
Common Name. Common Pipe Fish
Phylum, &c. [none given]
Locality and when collected. Whycocomagh Bay, Inver. Co., N.S.; July 1903
Collector (c) and Donor (d). Richard H. Brown (c. d.) Halifax
Received. Oct. 8, 1903
No. of Specimens. 1
Remarks. Total length (tip of snout to end of caudal fin) 6.95 ins.; length (tip of snout to caudal fin) 6.71 ins.; length of head 1.07 in.; head in length (snout to base of caudal) 6 1/3 times; length of snout .52 in. (= about 2 in head length); length of tail (vent to base of caudal) 3.52 ins. (Much longer than trunk)= 1 6/7 in length; greatest depth of body (including carinations) .45in. Length of dorsal fin 1.04in.; heigth of dorsal .27; length of caudal .24in.
Fin rays: Dorsal 39; Pectoral 13?; Anal 3 (?) (Punctuated with black); banded.
Rings: 19 body rings (counting vent as in last body ring), + 35 caudal rings. Dorsal fin on 9 3/4 rings, normaly 4 ½ body rings + 5 1/3 caudal rings (counting vent as last body ring) (This is about normal, the description saying 4 - 5 + 5 - 4).
Compare with No. 3369, 3558, 3559, 4013

Appendix 23: Accession Book No.I: Page 183. Museum No. 2696

Museum No. 2696
Scientific Name. *Cyclopterus lumpus*, L.
Common Name. Lump-sucker; Lump-fish
Phylum, &c.: [none given]
Locality and when collected. City wharf, Halifax Harbour, Hx., N.S.; 26 Aug./04
Collector (c) and Donor (d). Edward McLeod (c.d.)
Received. Aug.26, 1904
No. of Specimens. 1
Remarks. Colour blue-green when first from water

Appendix 24: Accession Book No.I: Page 206. Museum No. 3034

Museum No. 3034
Scientific Name. *Tarpon atlanticus* (Cuv. & Valen.). = *Megalops atlanticus* of Jordon's "Manuel of Vertebrates".
Common Name. Tarpon or Tarpum
Phylum, &c.: [none given]
Locality and when collected. Taken with a spear in eel-grass (shallow water) in Harrigan Cove, Halifax Co., Nova Scotia; on 6 September 1906

Collector (c) and Donor (d). Edward McDonald (c.) Harrigan Cove, N.S. Thomas McDonald (d.) Harrigan Cove, N.S.
Received. 11 Sep. 1906
No. of Specimens. 1
Remarks. Note.- This is the first record of this species (the Tarpum) having been taken in this province or so far north. As above stated it was taken with a spear in eel-grass (shallow water) in Harrigan Cove, Hx. Co., N.S. on Thursday, 6th. September 1906, by Edward McDonald of that place. It showed no fight when speared. Brought to Museum on 11 September 1906 by Thomas McDonald of Harrigan Cove. The fish, before being received at the Museum, had been roughly skinned at Harrigan Cove, and the head and tail were separated from the rest of the skin. When the parts were placed together they furnished the following measurements, etc.
(Approximate, of course, as regards length and breadth):- Total length, snout to tip of caudal, 5ft. 4in. = 64 inches. Length, snout to end of vertebrae, 4ft. 4in. = 52 inches. Head, 13.25 inches long. Head into length (snout to end of vertebrae), nearly 4 times. Depth of body about 11.50 inches. Depth into length (snout to end of vertebrae) about 4 6/11 times. (This is less depth than normal & may be owing to constriction of skin.)
Dorsal fin, 12 rays (plus a very short rudimentary 1st. ray). Filament of dorsal (posterior ray), 13.25 inches long. Pectoral fin, 14 rays. Ventral [fin], 9 rays. Anal [fin], 20 rays. Lateral line of 43 scales. Largest scale 2.90 inches in diameter. Colour bright silvery, the back darker. (Sent to T. J. Egan, 14 Sept., to be mounted as well as can be)

References: Figure 12 A, Plate 12: Figure 12 B, Plate 13. Two page letter to Harry Piers from Andrew Halkett dated 17 January 1916 concerning Tarpon (Museum No. 3034, Negative Nos. 23,488 and 23,489).

Figure 13 A, Plate 14: Figure 13 B, Plate 15. Two letters to Harry Piers from Edward E. Prince dated 8 February and 2 May 1916 concerning Tarpon (Museum No. 3034, Negative Nos. 24,058 and 23,456).

Appendix 25: Accession Book No. I: Page 224. Museum No. 3244

Museum No. 3244
Scientific Name. *Cristivomer namaycush* (Walbaum).
Common Name. Great Lake Trout.
Phylum, &c.: [none given]
Locality and when collected. Dollar Lake, Halifax Co., N.S.; 22 June 1908
Collector (c) and Donor (d). - ? - [none given]
Received. 24 June 1908
No. of Specimens. 2
Remarks. Dollar Lake is a little south of Wyse's Corner, eastern section of Hx. Co.

Appendix 26: Accession Book No. I: Page 226. Museum No. 3263

Museum No. 3263
Scientific Name. *Abramis (Notemigonus) crysoleucas* (Mitchill)
Common Name. Golden Shiner.
Phylum, &c.: [none given]
Locality and when collected. 9 miles above tide-water, on river, Antigonish, Antig. Co., N.S.; July 1908
Collector (c) and Donor (d). Dr. W. H. Macdonald (c.d.) Antigonish, N.S.
Received. 5 July 1908
No. of Specimens. 1
Remarks. Belongs to Cyprinidae. Total length (snout to end of caudal) 5.40 in. Depth in length 3 1/4; head in length 4 1/3; eye in head 3 ½.
Dorsal fin 8 ½ rays; Anal 12; Ventrals 9.
Scales: 11 in vertical series between front of dorsal & lateral line - 51 in lateral line - 4 between lateral line & vent (not counting lat. line scales itself). Very brilliant

Appendix 27: Accession Book No. I: Page 235. Museum No. 3369

Museum No. 3369
Scientific Name. *Siphostoma fuscum* (Storer)
Common Name. Common Pipe-fish
Phylum, &c. [none given]
Locality and when collected. Found in boat used by soldiers for fishing, Melville Island Cove, North West Arm, Halifax Co., N.S.; about 11 May, 1909
Collector (c) and Donor (d). Arnold Smith (c.d.) (son of S. R. Smith)
Received. 1 June 1909
No. of Specimens. 1; female, it has no egg-pouch
Remarks. Caught in net in Melville Island Cove. Hosterman property, North West Arm, Halifax.
Doubtless a male? As body is not as deep as in female (Compare No. 2169)

Description:- Total length, tip of snout to end of caudal fin, 7.32 inches; length, tip of snout to base of caudal, 6.96 ins., length of caudal fin, .36 in.; length of head (snout to posterior margin of opercle) .90 in.; head in length (snout to base of caudal) 7 8/9 times; length of snout, about .45 in. (= about 2 in head length); length of tail (vent to base of caudal), 4 ins. (much longer than trunk) = 1 7/8 in total length; greatest depth of body (including carinations), .15 in. Head 7 8/9 in length to base of caudal, 8 1/4 in total length to end of caudal. Snout short (about .45 in.), about 2 times in head; median line of snout, above and below, well keeled, this ridge on each side of median ridge rather conspicuous. Occiput, medial plates and opercle (?) Carinate; belly somewhat convex, severely keeled. Dorsal [fin] 1.20 ins. long, (longer than head); dorsal about .30 in. high (about 4 times in it's length). Dorsal covering 11 1/3 rings, namely 5 body rings + [plus] 6 1/3 caudal rings (counting the vent one as last body ring).
Fin rays: Dorsal 40; Pectoral 14; Anal 5; Caudal 10
Rings: 19 body rings (counting the vent in last body ring), + 36 caudal rings

Colour: greenish-brown above and on sides, showing darker at the junction of rings, thus having a banded appearance. Below whitish; slightly darker on anterior part of under side of snout and on posterior part of under side of tail, lower part of opercle silvery.
Dorsal with about 11 obscure dark bands on lower part, breaking up into mottling towards upper part of the fin. Caudal dark.

N.B.- The only apparent variation from the typical *S. fuscum* is in the number of rings which the dorsal fin covers. Jordan & Evermann, Fishes of N. A., p. 770, say the dorsal covers 4 to 5 + 5 to 4 rings. This makes a total of 9 rings. In the present specimen the dorsal covers 11 1/3 rings, namely 5 body rings + 6 1/3 caudal rings (counting the vent, naturally, as the last body ring). Taking the number of body rings covered as normal, then there are 6 1/3 caudal rings covered, instead of 4 or possibly 5 as in the typical species. Weather this is enough to make a new species of this (if constant) or weather it is to be considered as merely variation is a question.
Compare with no. 2169, 3558, 3559, 4013, 4538.

Appendix 28: Accession Book No. I: Page 236. Museum No. 3370

Museum No. 3370
Scientific Name. *Salvelinus fontinalis* (Mitchill)
Common Name. Brook Trout
Phylum, &c.: [none given]
Locality and when collected. Caught with minnow, at Little Salmon River, in pool in river, between the shore road & the harbour, head of Cole Harbour, Hx. Co., N.S.; 30 May 1909
Collector (c) and Donor (d). Simon Meaden (c.d.) 19 Agricola St., Halifax
Received. 2 June 1909
No. of Specimens. 1; male
Remarks. Note.- The fish rose to artificial fly, but was caught with minnow. The lower part of the pool in which the fish was caught has brackish water in it, but the water was fresh enough to drink where the fish was taken.

Weight when caught (absolutely accurate weight, as I assumed by Mr. Meaden); 6 3/4 pounds.Weight when received at Museum on 2 June (loss easily accounted for by evaporation), 96 ozs. = 6 pounds, exactly.

Total length (snout to tip of Caudal fin)	23.25 ins.
Length (snout to base of Caudal fin)	21. 15 ins.
Greatest depth (a little in front of Dorsal fin)	6.20 ins.
Width (thickness) of body	2.85 ins.
Girth (according to Meaden)	15.25 ins.
Length of head (3 3/4 times in length from snout to base of Caudal).	5.65 ins.

Teeth on head of vomer (not on shaft); no teeth on hyoid bone, but teeth on edge of tongue.
Back dark, with distinct darker markings. Sides darkish grey variegated with pale, flesh-coloured spots, some of these with inner spot of pale yellow or pale orange-yellow, and some (26 of them on one side) very deep red inner spots, one of these red spots being above lateral line. Belly yellowish-grey (with perhaps very faint pinkish tinge); median line of belly white. Has no appearance whatever of the silvery-grey colour of the "sea trout". Dorsal fin mottled with dark. Pectoral fins tinged reddish-yellow; Ventrals about half red; Anal mostly bright vivid red.
Dorsal with 10 rays + 2 immature rays; Anal with 9 rays + 2 immature ones.
Flesh deep pink.
This fish had no appearance whatever of the sea-run trout ("Sea Trout"), being vividly coloured & with the dark markings and red markings of the normal brook trout. It must be definitely & undoubtedly referred to the ordinary brook trout (not sea-run) as far as colour is concerned, & that is the only way to distinguish between the two forms of this species. John Jennings, a veteran fisherman of trout, also on seeing it emphatically stated it was not a sea-trout.
There is a specimen of trout in the Museum, weight 7 ½ lbs. taken in 1871 by John Y. Payzant in the same Little Salmon River, but some distance higher up. From its pale colour in alcohol I decided it is a "Sea Trout", but this colour may have removed the original colour. Payzant's fish is still largest *Salvelinus fontinalis* ever recorded from Nova Scotia. If it was a so-called "Sea Trout" then the present specimen would be the largest typical Brook Trout (not sea-run) ever taken in this province.

Appendix 29: Accession Book No.I: Page 240. Museum No. 3425

Museum No. 3425
Scientific Name. *Merluccius bilinearis* (Mitchill)
Common Name. Silver Hake; Whiting
Phylum, &c.: [none given]
Locality and when collected. North West Arm, Hx., N.S.; 14 Sept. 1909
Collector (c) and Donor (d). E. [Edward] S. F. Piers (c.d.) Halifax
Received. 15 Sept. 1909
No. of Specimens. 1
Remarks. Common in N. W. Arm at this time. In for 2 or 3 weeks
Colour = above, brownish with bluish reflections; below, bright silvery.
Head in length (to base of caudal), 3 2/3 times
Depth in length (to base of caudal), 6 1/4 times
Dorsal [fin] rays 13-39 (notched at 18th. ray of the 39); pectoral [fin], 14 [rays]; ventrals [fins], 7 [rays]; anal [fin], 39 [rays](notched at 18th.).
Lateral line; about 115
Length (to base of caudal) 12.25 ins.

Appendix 30: Accession Book No. I: Page 253. Museum No. 3537

Museum No. 3537
Scientific Name. *Fundulus diaphanus* (Le Sueur)
Common Name. "Minnow" (local name)
Phylum, &c.: [none given]
Locality and when collected. Cole Harbour, Hx. Co., N.S.; 15 April 1910
Collector (c) and Donor (d). Purchased in market .5 [cents] a dozen
Received. 16 April 1910
No. of Specimens. 13
Remarks. Family Cyprinodontidae
Head in length 4 1/8 to 4 ½ times
Dorsal 13 rays (one had 12, another had 15 rays); Anal 11 rays (the one with 15 rays in dorsal, had 12 rays in anal); Ventral, 6 rays.
Scales from posterior margin of opercle to end of body, 39 to 43
This is the common "minnow" of Nova Scotia; and the only fresh water representative of this family in eastern Canada according to Dr. P. Cox.

Appendix 31: Accession Book No. I: Page 254. Museum No. 3540

Museum No. 3540
Scientific Name. *Abramis* (*Notemigonus*) *chrysolucas* (Mitchill)
Common Name. Golden Shiner
Phylum, &c.: [none given]

Locality and when collected. Maynard's Lake, Dartmouth, Hx. Co., N.S.; 19 April 1910
Collector (c) and Donor (d). Lancelot A. Purcell (c.d.) Dartmouth
Received. 20 Apr. 1910
No. of Specimens. 12
Remarks. Family: Cyprinidae. Common in Maynard's Lake

Description:- Dorsal fin one, of soft rays only. Vent behind ventrals. Head without scales. Gill membrane united to isthmus. Mouth toothless. Air-bladder in two lobes; the anterior lobe about 1/3 of total length of air-bladder. Peritoneum silvery white, with very small black dots. Alimentary canal seems to be no longer then twice length of body. Lateral line present. Pharyngeal teeth one rowed (i.e. a single row on each pharyngeal bone), thus (*drawing*) of five teeth each (pharyngeal teeth 5 - 5). Abdomen behind ventrals compressed to an edge.
Head 4 times in length (snout to end of vertebrae) Depth 4 ½ times in length.
Dorsal fin of 9 rays; Anal fin of 13 (thirteen) rays; Ventral fin of 9 rays
Scales: 10 between front of dorsal and lateral line (excluding lateral line); 53 in lateral line; 4 or 5 between lateral line and vent (excluding the one in lateral line)
Length from 4.50 inches (largest) to about 2.50 in.
Colour: Olivaceous above; sides and belly bright silvery, the sides with beautiful purple, blue, and green reflections. A dark longitudinal band on sides (somewhat faint). Head with gold-silvery colours on sides.

Appendix 32: Accession Book No. I: Page 254. Museum No. 3545

Museum No. 3545
Scientific Name. *Pseudopleuronectes americanus* (Walbaum).
Common Name. Common Flatfish "Flatfish" (local).
Phylum, &c.: [none given]
Locality and when collected. Eastern Passage, Hx. Harbour, N.S.; 29 April 1910
Collector (c) and Donor (d). Bought in market
Received. 30 April 1910
No. of Specimens. 1
Remarks. Length 10.70 in.

Head in length 3 7/8; depth in length 2 1/6.
Fin-rays = dorsal 65 (longest 35th.); anal 47 (longest 23rd.); ventrals 6; pectorals 10.
Lateral line of 75 scales.
Teeth chiefly on blind side; teeth incisor like; mouth unsymmetrical.
Colour dark rusty-brown, obscurely blotched.

Appendix 33: Accession Book No. I: Page 254. Museum No. 3546

Museum No. 3546
Scientific Name. *Pseudopleuronectes americanus* (Walbaum)
Common Name. Common Flatfish "Flatfish" (local)
Phylum, &c. [none given]
Locality and when collected. Eastern Passage, Hx. Harbour, N.S.; 29 April 1910

Collector (c) and Donor (d). Bought in market
Received. 20 April 1910
No. of Specimens. 1
Remarks. Length 10.75 in.
Head in length 4 1/4; depth in length 2 1/3.
Fin-rays: dorsal 64 (longest 36th.); Anal 42 (longest 23rd.); ventrals 6; pectorals 10
Lateral line of 78 scales.
Colour dark rusty-brown, with obscure blotches. Dark brown blotches on dorsal & anal fins.

Appendix 34: Accession Book No. I: Page 255. Museum No. 3547

Museum No. 3547
Scientific Name. *Gasterosteus bispinosus bispinosus*, Walbaum
Common Name. Common Eastern Stickleback (Locally sometimes called "Thorn-fish")
Phylum, &c. [none given]
Locality and when collected. Brackish water, canal bridge near St. James Church, Dartmouth, Hx. Co., N.S.; 29 & 30 April 1910
Collector (c) and Donor (d). Lancelot A. Purcell (c.) Dartmouth
Received. 2 May 1910
No. of Specimens. 65
Remarks. Owing to the more or less fully plated sides of these specimens, I have determined them as the typical marine form *G. bispinosus* and not the incompletely plated brackish-water & fresh-water form *G. bispinosus cuviere* (Compare Jordan & Evermann's Fishes of N. A., p.748).
It is not considered good for bait by local anglers.
It was formerly considered identical with the European Stickleback (*G. aculeatus*), from which it is now separated by the greater length of the dorsal spines in the American species, as shown in these specimens.
Memo. of examination of 3 of above specimens.

	Specimen A	Specimen B	Specimen C
Dorsal Fin	II-I,13	II-I,12	II-I,11
Anal Fin	I,9	I,9	I,9
Pectoral Fin	11	10	11
Head in length	3 5/8 times	3 5/8 times	3 ½ times
Depth in length	4 ½ times	4 ½ times	4 1/8 times

The bony plates on sides are not wanting on posterior half of body; and are continued, although much more obscurely, on keel on sides of tail. In specimen A there are about 28 indent plates on sides, while counting the obscuring ones on the keel, there are about 32. In specimen B there are about 28 indent plates on sides, while counting the obscurer ones on the keel, there are about 32. In specimen C there are about 26 indent plates on sides, while counting the obscurer ones on the keel, there are about 30 in all.
This would evidently make this the typical marine form *G. bispinosus bispinosus* and not the less fully armed brackish-water & fresh-water form *G. bispinosus cuvieri*.
Length averages about 2.25 inches

Appendix 35: Accession Book No. I: Page 255. Museum No. 3549

Museum No. 3549
Scientific Name. *Xiphias gladius,* Linn.
Common Name. Common Sword-fish
Phylum, &c. [none given]
Locality and when collected. Lockeport, Shelburne Co., N.S.; 29 August 1909
Collector (c) and Donor (d). Thos. M. Fraser (d) Editor of "Echo". Halifax
Received. 3 May 1910
No. of Specimens. 1; "Sword"
Remarks. Length of "sword" 3 ft. 2 ½ in.

The original fish must have measured about 9 ft. 9 in. from tip of sword to end of caudal; or about 8 ft. 2 in. from tip of sword to base of caudal.

This was the largest swordfish which had ever been taken at Lockeport up to then.

Appendix 36: Accession Book No. I: Page 255. Museum No. 3553

Museum No. 3553
Scientific Name. *Couesius plumbeus* (Agassiz)
Common Name. [none given]
Phylum, &c. Fish
Locality and when collected. Penhorn Lake, 1 ½ miles NE of Dartmouth, Hx. Co., N.S.; 4 May 1910
Collector (c) and Donor (d). Lancelot A. Purcell (c.d.) Dartmouth, Hx. Co., N.S.
Received. 6 May 1910
No. of Specimens. 6
Remarks. Identified by Prof. Philip Cox, of Univ. of N. B., Fredericton. Dr. Cox says that several years ago he collected this species in La Have River, N.S. He says the type in the La Have R. is very near the lake forms in New Brunswick, though differing from the Gaspe variety.

Description: Colour: above olivaceous; below & parts of sides silvery; dark stripe (more or less apparent) on side, with a narrow light line just above. Purplish reflections on sides. No blotches on fins.

Peritoneum silvery white. Pseudobranchae present. Lateral line complete. Dorsal fin one, of soft rays only; dorsal inserted immediately behind ventrals. Vent behind ventrals.

Gill membrane united with isthmus. Head without scales. Mouth toothless.

Head 4 5/8 times in length; depth 5 times in length.

Dorsal fin of 8 rays (with an additional anterior rudimentary ray, about 1/3 length of others) Anal fin of 8 rays (so in two specimens examined. With a very rudimentary anterior ray in addition). Ventral fin of 8 rays. Pectoral fin of about 14 or 15 rays.

Scales= 12 or 13 between front of dorsal & lat. [lateral] line (excluding scale of lat. line). 63 in lateral line. 7 between lateral line & vent (excluding scale of lat. line).

Compare Dr. Philip Cox's "Cyprinidae of Eastern Canada" (*Proc. Nat. Hist. Soc. Of Miramichi*, No. 2, 1901, pp. 39-42)

Appendix 37: Accession Book No. I: Page 256. Museum No. 3558

Museum No. 3558
Scientific Name. *Siphostoma fuscum* (Storer)? variety.
Common Name. Common Pipefish
Phylum, &c. [none given]
Locality and when collected. Mill Cove (Dartmouth Cove), Dartmouth, Hx. Co., N.S.; 16 May 1910
Collector (c) and Donor (d). Lancelot A. Purcell (d) Dartmouth
Received. 18 May 1910
No. of Specimens. 1; female
Remarks. Description.- Total length, 8.35 ins. Length (to base of caudal), 8.05 inches.
19 body rings + 36 caudal rings.
Dorsal fin 43 rays, on 5 + 6 1/3 rings.Dorsal with about 17 vertical blackish bands.
Differs from normal in having 3 more rays in dorsal than maximum normal number (40); and in dorsal being on 11 1/3 rings instead of on only 9 rings. It must be either a variety or else a new species. See also next specimen, & compare with no. 3369, 2169, 4013, 243

Appendix 38: Accession Book No. I: Page 256. Museum No. 3559

Museum No. 3559
Scientific Name. *Siphostoma fuscum* (Storer)? variety
Common Name. Common Pipefish
Phylum, &c. [none given]
Locality and when collected. Mill Cove (Dartmouth Cove) Dartmouth, Hx. Co., N.S.; 16 May 1910
Collector (c) and Donor (d). Lancelot A. Purcell (d) Dartmouth
Received. 18 May 1910
No. of Specimens. 1
Remarks. Description.- Total length, 5.87 ins.Length (to base of caudal), 5.60 inches. 19 body rings + 38 caudal rings.
Dorsal fin 43 rays, on 5 + 7 rings. Dorsal unmarked
Differs from normal in having 3 more rays in dorsal than maximum normal number (40); and in dorsal being on 12 rings instead of only 9 rings. It must be either a variety or else a new species. See also proceeding specimen, & compare with no. 3369.

Appendix 39: Accession Book No. I: Page 256. Museum No. 3560

Museum No. 3560
Scientific Name. *Ameiurus nebulosus* (Le Sueur)
Common Name. Horned Pout; "Catfish" (local)
Phylum, &c. [none given]
Locality and when collected. Red Bridge Pond, east side of Second Dartmouth Lake, 2 1/4miles NNE of Dartmouth, Hx. Co., N.S.; 20 May 1910
Collector (c) and Donor (d). Lancelot A. Purcell (c) Dartmouth

Received. 21 May 1910
No. of Specimens. 1
Remarks. Not uncommon in this pond.

Colour.- Blackish (mottled) above, greyish on sides, belly white; lower jaw yellowish, under part of head pale-pinkish white, barbels black; a yellowish-white blotch covered by pectorals; iris yellow.

Description.- Dorsal before ventrals; adipose fin present; posterior margin of adipose fin free. 8 barbels; posterior nostril with barbel.

Humeral process somewhat roughened, .70 in. long, more than 3/4 length of pectoral spine. Lower jaw not projecting beyond upper jaw (lower jaw just to end of upper jaw).

Length (to base of caudal), 6.85 in. (total length 8.40 ins.) Head 1.92 in. Head in length, 3 ½ times. Width of head 1.50 in. Width of head in length, 4 1/4 times. Depth of body in length, 4 1/5 times. Pectoral spines .87 inch. Pectoral spines in length of head, 2 1/5 times.Length to base of Anal, 1.55 in. Base of Anal 4 ½ times in length of fish. Length of longest anal ray, 1.10 in. Greatest height of Anal, measured at right angle to body, .95 in.

Fins.- Dorsal I,5 rays. Anal 20 rays (1st. one short) Caudal fin very slightly emarginate (see sketch in margin).

Reference: Figure 14, Plate16. Line drawing of caudal fin of Brown Bullhead by Harry Piers (Museum No. 3560, Negative No. 12,440).

Appendix 40: Accession Book No. I: Page 257. Museum No. 3561

Museum No. 3561
Scientific Name. *Pygosteus pungitius* (Linn.) variety (?)
Common Name. Nine-spined Stickleback
Phylum, &c. [none given]
Locality and when collected. In brackish water in pool at outlet of Little Salmon River, head of Cole Harbour, Hx. Co., N.S.; 19 May 1910
Collector (c) and Donor (d). Lancelot A. Purcell (d) Dartmouth
Received. 21 May 1910
No. of Specimens. 1
Remarks. Taken with Minnow (*Fundulus diaphanus*)

Dorsal IX,8 (the descriptions give formula as IX-I,9 but there is no sign of the additional spine before the second [soft] dorsal)

Anal I,8 Tail keeled.

Colour olivaceous, punctuated & irregularly blotched with black.

N.B.- The variation in the dorsal may indicate a variety.

Appendix 41: Accession Book No. I: Page 257. Museum No. 3562

Museum No. 3562
Scientific Name. *Fundulus diaphanus* (Le Sueur)
Common Name. "Minnow" (local)

Phylum, &c. [none given]
Locality and when collected. Near outlet of Little Salmon River, Cole Harbour, Hx. Co., N.S.; 20 May 1910
Collector (c) and Donor (d). Purchased in market
Received. 21 May 1910
No. of Specimens. 14
Remarks. [none given]

Appendix 42: Accession Book No. I: Page 258. Museum No. 3570

Museum No. 3570
Scientific Name. *Ameiurus nebulosus* (Le Sueur)
Common Name. Horned Pout; Common Bullhead; "Catfish" (local)
Phylum, &c. [none given]
Locality and when collected. Farrell's (=Carter's) Pond, part of (on SE side of) First Dartmouth Lake, about 1 m.[mile] from Dartmouth, Hx. Co., N.S.; 2 June 1910
Collector (c) and Donor (d). Lancelot A. Purcell (c.) Dartmouth
Received. 3 June 1910
No. of Specimens. 1
Remarks. Description.- Colour; brown above with yellowish blotches on top and sides of head; sides of body gray with yellowish cloudings; beneath head yellowish white; belly and beneath tail white; barbels black. Caudal pinkish red. Other fins with red as mentioned below.
Total length, 10.75 in. Length to base of caudal, 9.10 in. Length of head, from post.[posterior] margin of opercle to offset of snout, 2.60 in. Length of head, from post. margin of opercle direct to end of snout, 2.75 in. Width of head, 2.28 in. Head in length 3 ½ times. Depth of body in length 4 1/9 times (depth = 2.20 in.). Base of anal fin, 2.00 ins. (4 ½ times in length of head). Pectoral spine .95 in. long (2.6 times in length of head). Humeral process about .80 in. long (rather smooth).Longest barbel (at corner of mouth), about 2.45 ins. long. Lower jaw equal in length to upper one (not distinctly longer or shorter) Compare No. 3560
Dorsal fin, I,7 rays. Anal fin, 21 rays, counting rudiment (2nd ray, 40 in. long, with very minute one before it)
Greatest length of anal 1.20 in. Membrane of anal red & purple between rays.
Ventral fins, 8 rays (blotched with red between rays). Pectoral fins, I,8 (with a few red spots). Caudal fin not forked (nearly entire). See sketch in margin. Dorsal short, placed before ventrals; adipose fin present, with it's posterior margin free. Barbels 8 (posterior nostril with a barbel).

Reference: Figure 15, Plate 16. Line drawing of caudal fin of Brown Bullhead by Harry Piers (Museum No. 3570, Negative No. 12,446)

Appendix 43: Accession Book No. I: Page 261. Museum No. 3588

Museum No. 3588
Scientific Name. *Morone americana* (Gmelin)
Common Name. White Perch

Phylum, &c. [none given]
Locality and when collected. Cow Bay Pond (brackish water), Cow Bay, Halifax Co., N.S.; 5 Aug. 1910
Collector (c) and Donor (d). Purchased in market 25c [cents]
Received. 6 Aug. 1910
No.of Specimens. 4
Remarks. Head in length 3 1/8; depth in length, 3 1/8; Length 7.20 to 7.80 inches.
Fin rays: dorsal IX-I,12 (13 in one specimen). Ventrals I,5 Anal III,9
Lateral line 54 scales
Scales: 8 - 54 - 12
2nd anal spine about 3 in head

Appendix 44: Accession Book No. I: Page 262. Museum No. 3601

Museum No. 3601
Scientific Name. *Balistes carolinensis,* Gmelin (=*B. capriscus,*Gmelin)
Common Name. Leather -jacket; Trigger-fish
Phylum, &c. [none given]
Locality and when collected. Taken with spear, near shore, Halifax Harbour, between Woodside sugar-refinery & Fort Clarence, Dartmouth, Hx. Co., N.S.; evening of 25 August1910
Collector (c) and Donor (d). Thomas Henneberry (c.) Woodside, Dartmouth. Arthur Manley (d.) Woodside, Dartmouth
Received. 26 Aug. 1910
No. of Specimens. 1 Adult
Remarks. Description.- Length (snout to base of caudal), 15.30 ins. (Total length, to end of caudal lobes, 18.75 ins.) Depth 7.15 ins.; depth in length 2 1/9 times. Greatest thickness, 2.00 ins. Head, 4.90 ins.; head in length 3 1/8 times. Gill opening length 1.60 ins.; eye opening .65 in. long Fin rays: dorsals III-27 (2nd dorsal length 5.00 in., height 3.75 in.; 5th ray longest);
pectoral 14 rays (4th ray longest, length 2.00 in.); anal 24 rays (length 4.35 in., height 3.15 in.; 5th ray longest). Broad spine in front of anus.
Lateral line (gill opening to base of caudal) about 57 scales; about 38 scales in oblique series from vent upward and forward Lateral line of the shape described by Jordan & Evermann.
Colour.- Light olive brown; whitish below. 1st dorsal fin dusky, irregularly spotted with pale blue. 2nd dorsal with bluish cloudings towards base and the anal with bluish spots towards base Pectorals light coloured, with brownish mottlings and spots (darkest at base), and with bluish spots near base. Caudal brown (tinged reddish evidently with blood) very obscurely mottled and spotted with darker brown and with bluish spots towards base. Iris brownish yellow.
Teeth (incisor-like and strong) white.

Note.- J. M. Jones in his "List of Fishes of N.S." (Trans. N.S. Inst. Nat. Sc., vol. V, 95) reports a specimen of *Balistes capricus* Gmelin (= *B. carolinencis* Gmelin.) which had been taken at St. Margaret's Bay, N.S., and which was then in the Prov. [Provincial]Museum. I have not recognized that specimen in the Museum. The present is the second occurrence of this fish here. It is very accidental. Jordan & Evermann (Fishes of N. A., p. 1701) give it's range as "Tropical parts of the Atlantic; occasional northward in the Gulf Stream; very common on our coast & in the Mediterranian, rarely north to England." DeKay records it from New York. The present specimen is typical & agrees well with descriptions.

Appendix 45: Accession Book No. I: Page 273. Museum No. 3670

Museum No. 3670
Scientific Name. *Semotilus atromaculatus* (Mitchill)
Common Name. Horned Dace; Creek Chub
Phylum, &c. [none given]
Locality and when collected. Nictaux River, near Middleton, Ann. Co., N.S.; June 1910
Collector (c) and Donor (d). Dr. Frank H. Reid (c.d.) late of Middleton, Ann. Co., N.S.
Received. 13 Mar. 1911
No. of Specimens. 2
Remarks. D.[Dorsal fin] 8 rays; A. [Anal fin] 8; V.[Ventral fin] 8; P.[Pectoral fin] 16 or 17.
Scales 9 or 10 - 55 - 6
Black spot on anterior lower part of dorsal. Reid says they are called by all sorts of local names. He says he has never observed any "horns" on them, can occasionally a spur over the eyes.

Appendix 46: Accession Book No. I: Page 273. Museum No. 3671

Museum No. 3671
Scientific Name. *Anguilla chrysypha,* Rafinesque (= *Anguilla anguilla rostrata* (LeSueur)) of most writers
Common Name. Eel
Phylum, &c. [none given]
Locality and when collected. Nictaux River, near Middleton, Ann. Co., N.S. June1910
Collector (c) and Donor (d). Dr. Frank H. Reid (c.d.) Late of Middleton, Ann. Co., N.S.
Received. 13 Mar. 1911
No. of Specimens. 2: Heads of Eels
Remarks. [none given]

Appendix 47: Accession Book No. I: Page 278. Museum No. 3713

Museum No. 3713
Scientific Name. *Perca flavescens* (Mitchill)
Common Name. Yellow Perch
Phylum, &c. [none given]
Locality and when collected. Grand Lake, Hx. Co., N.S.; 10 June 1911
Collector (c) and Donor (d). John Hallett (c.) Truro. Purchased for $1.00 from H. S. Cruikshank
Received. 8 Sept. 1911
No. of Specimens. 1
Remarks. Mounted specimen (Mounted by H. S. Cruikshank)
Length, 8.40 ins.
Head in length (as mounted) 3 1/8 times
Dorsal rays XIV,14. Ventral rays I,5. Anal rays II,7.
Scales 5 - 57 - 17

Jordan's Manual gives fin formulae as D.[Dorsal fin] XIII; A.[Anal fin] II,7. Seems to be somewhat variable in Jordan & Evermann. Fishes of N. A.

Appendix 48: Accession Book No. I: Page 279. Museum No. 3723

Museum No. 3723
Scientific Name. *Roccus loneatus* (Bloch) Jordans Manuel, no. 372
Common Name. Striped Bass
Phylum, &c. [none given]
Locality and when collected. Canso, Guys. Co., N.S.; July 1911
Collector (c) and Donor (d). An Indian fisherman (c.)
Received. 18 Sept. 1911
No. of Specimens. 1
Remarks. Plaster cast of *Roccus loneatus* (Bloch)
Cast made by H. S. Cruikshank, Truro, from the fish. Purchased from Cruikshank for $1.50
Length, 17.75 inches.Head in length, 3 ½ times; depth in length, 3 3/4 times;
Dorsal fin, about IX,12. Anal probably III,11.
Weight of original fish in flesh, 3 pounds.

Appendix 49: Accession Book No. I: Page 279. Museum No. 3724

Museum No. 3724
Scientific Name. *Gadus collarias,* Linnaeus
Common Name. Cod-fish
Phylum, &c. [none given]
Locality and when collected. Caught near Halifax, Hx. Co., N.S.; June 1911
Collector (c) and Donor (d). Unknown
Received. Purchased; mounted, from H. S. Cruikshank, Truro, $3.50(sold in Truro market)
No. of Specimens. 1
Remarks. Length (to base of caudal) 3ft. 2 1/4 inches. Head in length 3 7/8 times.
Dorsal rays:14 (last ray very small). - 19 - 20 (last ray very small). Anal rays: 20 (last ray very small)- 18 (last ray very small). Pectoral rays: 19. Ventral rays: 6.
Weight 25 pounds.

Appendix 50: Accession Book No. 2: Page 3. Museum No. 3778

Museum No. 3778
Scientific Name. *Prionace glauca* (Linn.) = *Carcharhinus glaucus* (Linn.)
Common Name. Great Blue Shark; "Blue Dog" (local)
Phylum, &c. {none given]
Locality and when collected. Taken on a trawl (line), about 10 miles east by south from Devil's Island, off mouth of Halifax Harbour, N.S.; Sept., 1909

Collector (c) and Donor (d). Benj. Henneberry (c.) Devil's Island, Hx. Harbour. S. Y. Wilson (d.) Supt.[Superintendent] of Fisheries Building of Prov. [Provincial] Exhibition of 25 Sept. 1909
Received. 30 March 1912
No. of Specimens. 1
Remarks. Family: Galcorhinidae

This is the first time this species has been reported from Nova Scotia. It is a native of warm seas, occasionally taken in coasts of U. S. A.

Original total length of this specimen was 6ft. 11 3/4 ins.; snout to base of caudal, 5 ft. 4 ins.; greatest length of pectoral fins, 1 ft. 2 3/4 ins. (= 14 3/4 ins.). Teeth serrated in both upper and lower jaws. The specimen was shown at the Priovincial Exhibition (Fisheries exhibit) of 1909.- I find on further investigation that this species although not mentioned in Jones's's list of 1879, has been noted before. I have a N.S. note of a specimen seen by me, which was taken about 30 miles off Devil's Island, off Halifax Harbour, in October, 1895, which measured about 6 ft. to tip of caudal. Cornish reports it from the banks off Canso, N.S. in 1901-2 and says it is locally called "Blue Dog".-I have also come across unsigned N.S. notes of Robt. Morrow to DeKay's plates of a serrated-toothed shark, *Carcharias aruleus* (= *Carcharhinus milberti*, Muller & Henle) In which he says "Halifax Harbour, Aug. 17th, 1883," and further says, "1st dorsal should be midway between post.[posterior] margin of pectorals and ant. [anterior] margin of 2nd. dorsal." This seems to indicate pretty plainly that it must have been *Prionace glauca* which Morrow had before him at Halifax.

See also 4940

Appendix 51: Accession Book No. 2: Page 5. Museum No. 3796

Museum No. 3796
Scientific Name. *Anguilla chrysypa*, Rafinesque (= *A. anguilla rostrata* (LeSueur))
Common Name. American Eel; Freshwater Eel
Phylum, &c. [none given]
Locality and when collected. Estuary of brook at head of North West Arm, Halifax, N.S.; 22 June 1912
Collector (c) and Donor (d). E. S. F. Piers (c.d.). Halifax
Received. 24 June 1912
No. of Specimens. 2 young
Remarks. Length 2.30 and 2.15 ins. A number of small eels at that place then.

Appendix 52: Accession Book No. 2: Page 7. Museum No. 3820

Museum No. 3820
Scientific Name. *Petromyzon marinus*, Linn.; probably variety *unicolor* (DeKay)
Common Name. [Land-locked] Great Sea Lamprey; Lamprey Eel
Phylum, &c. Fish
Locality and when collected. Grand Lake, Hx. Co., N.S.; 21 June, 1912
Collector (c) and Donor (d). Jos. E. Campbell (c.d.) H. M. Customs, Halifax
Received. 24 Oct. 1912
No. of Specimens. 1

Remarks. When taken it was attached to the belly of a Land-locked Salmon ("Grayling"), *Salmo salar sebago*

Total length, 5.70 ins.; distance between end of first dorsal and beginning of second dorsal, .25 in. Colour:- Brownish-blackish-slate above; slate-gray on sides (not mottled); silvery-yellowish-white below. Buccal disk & mouth pale orange-buff; teeth deep orange-buff.

Appendix 53: Accession Book No. 2: Page 24. Museum No. 4013

Museum No. 4013
Scientific Name. *Siphostoma* sp. (related to *S. fuscum*, or a variety of that species)
Common Name. Pipefish
Phylum, &c. Zool. Fish.
Locality and when collected. Near head of North West Arm (at Walch's Independent Boathouse), Halifax, N.S.; 7 June 1913
Collector (c) and Donor (d). E. S. F. Piers (c.d.)
Received. 9 June 1913
No. of Specimens. 1 Male, with egg-pouch
Remarks. Was swimming in semi-upright position, by undulating movements of the dorsal fin, near surface of the water.

Total length, 7.44 ins.; dorsal fin rays, 42; dorsal fin covers 5 body rings + 7 caudal rings, total 12 rings; body rings, 19; caudal rings, 38. It differs chiefly from the description of *S. fuscum* in as much as the dorsal fin covers more rings then is typical in *fuscum*, the maximum being apparently 10 in the latter species.

Appendix 54: Accession Book No. 2: Page 25. Museum No. 4017

Museum No. 4017
Scientific Name. *Apeltes quadracus* (Mitchill)
Common Name. Four-spined Stickleback
Phylum, &c. Zool. Fish.
Locality and when collected. Brackish water, head of North West Arm, Halifax, N.S.; 1 July 1913
Collector (c) and Donor (d). Edward S. F. Piers (c.d.)
Received. 2 July 1913
No. of Specimens. 6
Remarks. [none given]

Appendix 55: Accession Book No. 2: Page 28. Museum No. 4059

Museum No. 4059
Scientific Name. *Brosomius brosme* (Muller)
Common Name. Cusk
Phylum, &c. Zool. Fish.

Locality and when collected. Off H. L. Dauphinee's wharf (Dauphinee House), Hubbard's Cove, Hubbards, Hx. Co., N.S.; various dates, 7 July to 4 (?) Aug. 1913
Collector (c) and Donor (d). E. S. F. Piers (c.d.) Halifax
Received. About 4 Aug. 1913
No. of Specimens. 10 Young
Remarks. These young Cusk were common there, averaged about 4 inches in length, and took a baited hook.

Appendix 56: Accession Book No. 2: Page 38. Museum No. 4109

Museum No. 4109
Scientific Name. *Balistes carolinensis,* Gmelin
Common Name. Leather-jacket; Trigger-fish
Phylum, &c. Zool. Fish.
Locality and when collected. Picked up dead, but quite fresh, on the shore near Admiral Rock, eastern side of Bedford Basin, near Bedford, Hx. Co., N.S.; 20 August 1912
Collector (c) and Donor (d). Alexander Griswold (c.) Bedford, N.S. Alfred Ogden (d.) Bedford Fish Hatchery, Bedford
Received. 5 Jan. 1914
No. of Specimens. 1
Remarks. When it was found, Crows had picked out the eyes and intestines.
This is a widely distributed species, very common in West Indies and Mediterranean Sea.
Sometimes carried northward in Gulf Stream to New York & Massachusetts.
This is the fourth record for Nova Scotia:- one specimen from St. Margarets Bay (Jones), one from Banquereau, 1901-2 (Cornish) one from Halifax Harbour, 25 Aug. 1910 (see Mus. No. 3601); and this present one.
Compare with Acc. No. 3601 & 8313
Total length, snout to end of caudal 12.50 ins.
Length, snout to base of caudal 10.00 ins.
Head about 3 in length (snout to base of caudal); depth 1 6/7 in length.
Dorsal fin rays, III,26; anal fin rays, 26.
Lateral line, 54 scales

References: Figure 16, Plate 17. Letter to Harry Piers from Alfred Ogden dated 5 January 1914 concerning a Gray Triggerfish (Museum No. 4109: Neg. No. 23,436)

Figure 17, Plate 18. Letter to Harry Piers from Alfred Ogden dated 7 January 1914 concerning a Gray Triggerfish (Museum No. 4109: Neg. No. 23,474)

Appendix 57: Accession Book No. 2: Page 45. Museum No. 4160

Museum No. 4160
Scientific Name. *Catostomus commersonii* (Lacepede) = *C. teres* (Mitchill).
Common Name. Common Sucker.
Phylum, &c. Fish.
Locality and when collected. Nine-mile River at Boutilier's saw-mill, a little westward of Bowsers, St. Margaret's Bay Road, Hx. Co., N.S.; 3 June 1914.
Collector (c) and Donor (d). H. Piers (c.)
Received. 4 June 1914.
No. of Specimens. 1 Male
Remarks. Saw about 20 of these fish in the stream at this place.
Length to end of caudal fin, 12.80 ins.
Length to base of caudal fin, 10.90 ins.
Head in length, 4 1/4 times.
Dorsal fin, 14 rays (1st. one short).
Pectoral [fin], 14 rays.
Ventrals 9 rays (1st. one short, last one very short, that leaves 7 developed rays)
Anal [fin], 10 rays
Scales in lateral line, 65.
Without doubt a male, with anal and caudal fins tuberculate, and with faint yellowish-reddish lateral band.

Appendix 58: Accession Book No. 2: Page 46. Museum No. 4167

Museum No. 4167
Scientific Name. *Petromyzon marinus,* Linn.
Common Name. Great Sea Lamprey
Phylum, &c. Fish
Locality and when collected. Shubenacadie River, near Benery Brook, near Enfield, Hx. Co., N.S.; 28 June 1914
Collector (c) and Donor (d). John McDonald (c.) Enfield, N.S. Bought for .40
Received. 30 June 1914
No. of Specimens. 1
Remarks. Length, snout to tip of caudal, 27 inches. Head, 2.75 ins.
Dorsal fins separated by about ½ inch.
Colour.-Grayish-white, mottled with black confluent patches, the black predominating on the top of head and anterior half of back. Under parts grayish-white, lighter anteriorly, and whitish on underside of head.
Note.- The dorsal fins would seem to be closer together than is usual with *P. marinus*, in which they are stated to be "well separated". The land -locked form *P. marinus unicolor*, has "the fins closer together", but it is spoken of as a "dwarfish form, darker and more uniform in colour" (Jordan & Evermann). This specimen is not dwarfish, and cannot be spoken of as "more uniform in colour".

Appendix 59: Accession Book No. 2: Page 53. Museum No. 4200

Museum No. 4200
Scientific Name. *Catostomus commersonii* (Lacepede).
Common Name. Common Sucker.
Phylum, &c. Fish.
Locality and when collected. Taken by a gull which was attacked by Crows on the beach, Mira, C. B. Co., N.S.; about 30 Dec. 1914 (It doubtless had been taken by the gull in some part of the Mira River as it is a fresh-water fish).
Collector (c) and Donor (d). James Macdonald (c.) Mira. J. S. Macdonald (d.) Editor, Glace Bay Gazette, Glace Bay, N.S.
Received. 7 Jan. 1915 .
No. of Specimens. 1
Remarks. Total length, 16.40 ins. Length, snout to base of caudal, 13.75 ins. Head, 3.00 ins. Head in length, 4 ½ times.
Dorsal, 12 rays (last 2 rays, although split to base, may be actually a single ray at the insertion) This fish was considered remarkable where found, and an article appeared on it in Glace Bay Gazette (copied in Echo, Hx., 2 Jan. 1915):- Many of the old fishermen viewed it, but never saw anything like it before. Also spoken of as "the most peculiar fish that was ever seen at Mira. J. S. Macdonald of Glace Bay Gazette, in letter to me of 6 Jan. 1915, says "an old sea captain, I am told, said it is commonly known as a red sand-sucker, and that it is often found in fresh-water, but seldom in salt. It may possibly be common enough in river waters of Nova Scotia, though nobody who saw it here had ever seen it before".

References: Figure 18, Plate 19. Letter to Harry Piers from Editor, Glace Bay Gazette dated 6 January 1915 concerning a White Sucker (Museum No. 4200. Neg. No. 23,43).

Figure 19, Plate 20. Copy of report on White Sucker from Mira, in Echo, Halifax, 2 January 1915 (Museum No. 4200. Neg. No. 23,441)

Figure 20, Plate 21. Rough notes on White Sucker from Mira by Harry Piers (Museum No. 4200: Negative No. 23,440).

Appendix 60: Accession Book No. 2: Page 56. Museum No. 4224

Museum No. 4224
Scientific Name. *Abramis crysoleucas* (Mitchill).
Common Name. Golden Shiner.
Phylum, &c. Fish.
Locality and when collected. Blueberry Lake, near Beachville, St. Margaret's Bay Road, Halifax County, Nova Scotia;10 July 1897
Collector (c) and Donor (d). Harry Piers (c.d.)Halifax.
Received. 31 March 1915
No. of Specimens. 1
Remarks. Length to end of caudal, 4.15 ins. Head 4 1/10 in length; depth merely 3 ½ in length

Scales, 10 - 50 - 3
Dorsal fin, 9 rays (1st. ray close to 2nd. ray); anal [fin], 13 [rays]; ventral [fin],8 [rays].

Appendix 6l: Accession Book No. 2: Page 56. Museum No. 4227

Museum No. 4227
Scientific Name. *Fistularia petimba,* Lacepede (of Jordan & Evermann's Fishes of N. & M. America) (= *Fistularia serrata,* Cuvier).
Common Name. Trumpet-fish.
Phylum, &c. Fish
Locality and when collected. Found washed ashore, alive, on beach, at Little Hope Lighthouse Station, near Port Mouton, Queens Co., Nova Scotia; 5 September, 1914.
Collector (c) and Donor (d). Reuben Colp (coll.) lighthouse keeper, Little Hope Light. Frederick L. Fultz (d.) Marine & Fisheries Dept., Halifax.
Received. 12 Feb. 1915
No. of Specimens. 1
Remarks. No. 1108 of Jordan & Evermann's "Fishes of North & Middle America"
Had first been placed in alcohol, and was given to the Museum as a dry specimen.

Measurements from dry specimen:

	Measurements Made about 1 Feb. 1915	Measurements made very carefully 19 March 1915
Extreme length, snout to end of caudal filament		26.20 ins.
Length, snout to end of caudal fin		18.55 ins.
Length, snout to base of middle caudal ray	18.20 ins.	17.85 ins.
Caudal filament	8.40 ins.	8.30 ins.
Length of head (snout to posterior edge of opercle)	6.50 ins.	6.45 ins.
Anterior margin of eye, to end of snout		5.03 ins.
Head in body	2 4/5 times	{ 2.76 times = about 2 3/4 times

Fin Formulae. - Dorsal 15 (1st. ray very small); pectorals, 16; ventrals, 6; anal, 15 (1st. ray very small and weak). (Note.- Jordan & Evermann give the fin formula as D. 14; V. 6; A. 13. An old dried specimen in this Museum, 15.10 ins. From snout to end of caudal, has following fin formula: D. 14 or 15 (1st. ray very small); P. 16; V. 6; A. 14 or 15 (1st. ray very small). Pectorals small, with broad base. Ventrals very small, inserted about midway between end of snout and caudal fin. Anal opposite dorsal. Skin rough.
Lateral edges of snout serrated, from eyes to more than half-way towards end of snout.
Colour, from dry, washed specimen, as noted on 20 March 1915:- Upper parts brownish; varying from Sipea behind head, to Hair Brown on snout and posterior part of back, and to dark Drab on tail (No bluish spots noticeable). Under parts light Tawney to Ochraceous. Fins yellowish white; dorsal and anal, pale Orange Ochraceous at base (darker in the case of the anal fin). A darker patch of the same colour, or pale Orange Rufous, immediately posterior to the anal fin. The whole body had been covered, before washing, with a whitish deposit.

Letter of Dr. David Starr Jordan, Leland Stanford Junior University, Office of the Chancellor, Stanford University, Cal., March 12th, 1915.

Mr. Harry Piers
Provincial Museum,
Nova Scotia.

Dear Mr. Piers:

My recollection of *Fistularia* has grown vague. I have a note, that seems to admit of no doubt, that the original *Fistularia patimba* is the one called in our Fishes of North America, *Fistularia depressa.* This type of *F. petimba* was from New Britain. The *F. petimba* of our book became *F. serrata.* Evidently we overlooked the records of Goode and of Jones [for West Indies and Nova Scotia]. I have no reason for doubting either.

F. tabaccaria is thus American, ranging north in the Gulf Stream to Rhode Island.

F. petimba (called *depressa* by us) is of Pacific, ranging north to Southern California and Japan.

F. serrata (called *petimba* by us) is in Japan. And South Seas, also in the Atlantic, ranging northward to Nova Scotia.

Can it be that the Atlantic form is a different species? (Bloch's figure, type of *serrata,* locality unknown, is said to be spotted with blue, the snout serrate). If so there is no other Atlantic name.

F. starksi is Chinees

F. corneta belongs to Panama fauna

These fishes are rather difficult, and have been somewhat mixed up. What if yours should prove different from the one in the Pacific called *serrata*? I don't remember to have seen blue spots on any but *tabaccaria.*

Very truly yours
(Sgd) David Starr Jordan

N. B.- From the above letter it appears that the name *F. petimba* should not be used for this species in the Atlantic, as *F. petimba* is the correct name of what Jordan and Evermann called *F. depressa. F. serrata* therefore becomes the correct name for the Atlantic, etc., species, unless as is quite likely the Atlantic form differs from *F. serrata* (which is said to have blue spots), in which case there is no name for the Atlantic species and it would require a new name.

References: Figure 21, Plate 22. Letter to Harry Piers from B. A. Bean dated 13 March 1915 concerning Coronetfish, *Fistularia* (Museum No. 4227. Negative No.23, 479)

Figure 22, Plate 23. Letter to Harry Piers from David Starr Jordan dated 10 April 1915 concerning Coronetfish, *Fistularia* (Museum No. 4227. Negative No. 23,478).

Figure 23, Plate 24. Letter to Harry Piers from J. O. Snyder dated 15 April 1915 concerning Coronetfish, *Fistularia* (Museum No. 4227: Negative No. 23,447).

Figure 24, Plate 25. Letter to Harry Piers from R. J. Colp dated 25 April 1915 concerning Coronetfish, *Fistularia* (Museum No. 4227: Negative No. 23,433).

On receiving a correspondence from Barton A. Bean (Figure 25 A, Plate 26) advising Piers of the capture of a Scup, *Stenotomus chrysops*, in Halls Harbour (Bay Of Fundy), Kings County, Nova Scotia on 21 August 1911, which was sent to the Smithsonian Institute, Washington, Harry Piers

on 9 April 1915 wrote to Bean asking if the U.S. National Museum would repatriate this specimen to the N.S. Provincial Museum (Figure 25 B, Plate 27).

Appendix 62: Accession Book No. 2: Page 58. Museum No. 4242

Museum No. 4242
Scientific Name. *Pomolobus pseudoharengus* (Wilson).
Common Name. Alewife; "Gaspereau".
Phylum, &c. Fish
Locality and when collected. Boutilier's old saw-mill dam, Nine-mile River, near Bowser's, St. Margaret's Bay Road, Hx. Co., N.S.; 29 May 1915.
Collector (c) and Donor (d). [none given]
Received. 31 May 1915
No. of Specimens. 1 Female
Remarks. Very many there. Measurements, etc.

Weight 11 3/4 oz.
Total length 12.50 inches
Snout to base of caudal 10.55 inches
Greatest depth, front of dorsal to near front of ventrals 3.10 inches
Depth of tail 1.00 inch
Length of head 2.26 inches
Diameter of eye - socket (anterior-post. measurement) .70 inch
Diameter of eye itself, about .60 inch
Length of largest dorsal ray 1.68 inches
Length of dorsal fin 1.75 inches
Highest anterior point of dorsal, when laid back, reaching almost to posterior part of attachment of dorsal to back.
Head in length 4.67 times
Depth in length 3.40 times = 3 2/5
Peritoneum: Light coloured.
Fin rays: Dorsal 17 (3rd. longest)
Pectoral 16
Ventral 9
Anal 18

Appendix 63: Accession Book No. 2: Page 58. Museum No. 4243

Museum No. 4243
Scientific Name. *Pomolobus pseudoharengus* (Wilson).
Common Name. Alewife; "Gaspereau".
Phylum, &c. Fish
Locality and when collected. Boutilier's old saw-mill dam, Nine-mile River, near Bowser's, St. Margaret's Bay Road, Hx. Co., N.S.; 29 May 1915.

Collector (c) and Donor (d). [none given]
Received. 31 May 1915
No. of Specimens. 1
Remarks. Very many there

	Measurements, etc.
Weight	11 3/4 oz.
Total length	12.30 inches
Snout to base of caudal	10.50 inches
Greatest depth, front of dorsal to near front of ventrals	3.06 inches
Depth at tail	.95 inch
Length of head	2.25 inches
Diameter of eye-socket (anterior-post. measurement)	.67 inch
Diameter of eye itself, about	.60 inch
Length of largest dorsal ray	1.68 inches
Length of dorsal fin	1.75 inches
Highest anterior point of dorsal, when laid back, reaching almost to posterior part of attachment of dorsal to back.	
Head in length	4.67 times
Depth in length	3.43 times
Peritoneum: Light coloured	
Fin Rays: Dorsal	17 (3rd. Longest)
Pectoral	16
Ventral	9
Anal	17

Appendix 64: Accession Book No. 2: Page 62. Museum No. 4266

Museum No. 4266
Scientific Name. *Fundulus diaphanus* (Le Sueur).
Common Name. Freshwater Killifish; Freshwater Minnow.
Phylum, &c. Fish
Locality and when collected. Abundant in lagoon, brackish, Dauphinee Beach, Hubbards, Hx. Co., N.S.; 26 July 1915.
Collector (c) and Donor (d). Edward S. F. Piers (c.d.) Halifax
Received. 9 Aug. 1915
No. of Specimens. 200
Remarks. Very common there.

Total length 1.45 to 2.90 inches (average about 2.00 ins.)
Head in length, 3 1/3 times; depth in length, 4 1/4 (to 5 times in small specimens).
Fin formula: D. [dorsal] 13 or 14 (14 counting all); A. [anal] 12; V. [ventral] ?; P. [pectoral] 16 or 17. Dorsal inserted before anal.
Scales: 40 to 53 in lateral line; 8 from lat. line to dorsal (descriptions of species say from 12 to 15).
Head dark on top. 14 to 18 dark transverse bars on sides, sometimes very obscure or almost wanting.
Dorsal inserted before anal

Reference: Figure 73, Plate 78. Original note by Harry Piers concerning Banded Killifish, *Fundulus diaphanus*, at Dauphinee Beach, Hubbards 26 July 1915.

Appendix 65: Accession Book No. 2: Page 62. Museum No. 4273

Museum No. 4273
Scientific Name. *Xiphias gladius,* Linn.
Common Name. Common Swordfish
Phylum, &c. Fish
Locality and when collected. St. Margaret's Bay, off Hubbards, Hx. Co., N.S.; 5 Aug. 1915. (Received at Hubbards by Harry Piers 5th. and 7th. Aug. 1915):
Collector (c) and Donor (d). Freeman & Gilbert Harnish, Hubbards, N.S. (c.d.)
Received. 17 Aug. 1915
No. of Specimens. 2; swords of Common Swordfish
Remarks. The fish from which these "swords" were taken were about 8 ft. 6 ins. in total length including the sword, and would probably weigh about 200 lbs. dressed (that is without, head, fins and entrails). They had been harpooned by Freeman Harnish, from a "pulpit" on a gasoline motor-boat, out on the Bay, and the bodies of the fish forwarded to Boston, U. S. A., market, for food. One of the swords is 3 ft. 10 ½ ins. from nostril to extremity of sword, and 4.50 ins. wide near broad part; and the other is 3 ft. 8 ½ ins. from nostril to extremity, and 4 inches wide near basal part (The weight of the total fish, as taken from water must have probably been about 440 and 420 lbs.; as a sword 4 ft. long, shown at Prov.[Provincial] Exhibition in 8 Sept. 1915, by D. Coolen, was said to have been from a fish which weighed 448 lbs.) Compare with Acc. No. 4712

Appendix 66: Accession Book No. 2: Page 98. Museum No. 4498

Museum No. 4498
Scientific Name. *Gadus collaris.*
Common Name. Cod-fish.
Phylum, &c. Fish.
Locality and when collected. Fish taken off Shag Bay, Hx. Co., N.S.; about 24 April 1917.
Collector (c) and Donor (d). D. Coolen (c.)
Received. 27 Apr. 1917.
No. Of Specimens. Two small bones from the lower part of the cranial cavity of *Gadus collaris*; the Cod-fish.
Remarks. This fish was about 20 or 24 ins. long. The bones seem to be unattached to the cranium.

Appendix 67: Accession Book No. 2: Page 98. Museum No. 4501

Museum No. 4501
Scientific Name. *Fundulus diaphanus* ? (Le Sueur). Jordan & Evermann no. 939 pg. 645.
Common Name. Freshwater Minnow; Freshwater Killifish.
Phylum, &c. Fish.
Locality and when collected. Sunny shoal-water of little cove, brackish water, in inner part of Cole Harbour, Hx. Co., N.S.; 4 May 1917.
Collector (c) and Donor (d). Bought in market (.05 [cents] a dozen; .10 [cents])
Received. 5 May 1917.
No. of Specimens. 25
Remarks. Noted in my MS paper on fish.

	Largest Specimen	Smallest Specimen
Total length	3.55 inches	1.67 inches
Length to base of caudal	2.95 inches	1.52 inches
Head	.82 inch	
Depth	.76 inch	

Total length	Scales in lat. line	Depth of Body Into length to Base of caudal	Dorsal Rays	Anal Rays
3 inches	47, 46, 46, 48 (42, 48 to where scales on base of caudal begin)	5	11	10

Appendix 68: Accession Book No. 2: Page 98. Museum No. 4502

Museum No. 4502
Scientific Name. *Menidia menidia notata* (Mitchill). Jordan & Evermann, no. 1166, p. 800.
Common Name. Common Silverside (called "Sprat" by man who had them in market).
Phylum, &c. Fish.
Locality and when collected. On sandy spots in shallow parts of channels, in brackish water, Cole Harbour, Hx. Co., N.S.; 4 May 1917.
Collector (c) and Donor (d). Purchased from Cole Harbour man in Halifax Market for .20 (.05 a dozen).
Received. 5 May 1917
No. of Specimens. 48
Remarks. The man said they first appeared about the 21 April, and remain about a month at least[probably to spawn] Noted in my MS. fish paper.

Measurements & Fin rays & Scales:-

	Largest Specimen	Smallest Specimen
Total length	5.52 inches	4.04 inches
Length to base of caudal	4.70 inches	3.42 inches
Head	1.06 inches 4 ½ times into length to base of caudal	.76 inch 4 3/8 times into length to base of caudal
Eye (longitudinal diameter)	.28 inch	.22 inch
Depth of body	.80 inch	.65 inch
1st. dorsal rays	IV,4	IV,4
2nd dorsal rays	I,8 (1st ray about 1/3 length of 2nd; 3rd longest)	I,8 (with a very short rudimentary one in front)
Pectoral rays	13	13
Ventral rays	6	6
Anal rays	I,20	I,22
Scales in lateral line	48	47

Appendix 69: Accession Book No. 2: Page 102. Museum No. 4521

Museum No. 4521
Scientific Name. *Raja ocellata,* Mitchill.
Common Name. Big Skate.
Phylum, &c. Fish.
Locality and when collected. Found dead on shore of inner cove, Hubbards Cove, Hx. Co., N.S.; 14 July 1917.
Collector (c) and Donor (d). H. Piers (c.)
Received. 6 Aug. 1917
No. of Specimens. 1: jaws of Female
Remarks. The fish (which was not preserved) was 22 inches in total length.
Middle line of back and tail behind shoulders without spines.
Outline of disk before spiracle obtuse
Jordan & Evermann gives the teeth as about? 90 series in each jaw.
Teeth in 85/92 series

Upper jaw, one side only.
Different counts made of series of teeth

42
41
42
43
43
43

6/254
42 1/3= say 43 X 2 = 86
say teeth in 85 series in
upper jaw

6 254

Lower jaw, one side only.
Different counts made of series of teeth

46
46
47

say 46 X 2 = 92 teeth
in series in lower jaw

Say 46 X 2 = 92 teeth
in series in lower jaw

42 1/3 = say 43 X 2 = 86
Say teeth in 85 series in upper jaw

Appendix 70: Accession Book No. 2: Page 102. Museum No. 4522

Museum No. 4522
Scientific Name. *Raja erinacea,* Mitchill.
Common Name. Common Skate; "Pot Skate"; "Basket Skate".
Phylum, &c. Fish.
Locality and when collected. Taken with hand-line, in about 10 feet of water, in inner cove, Hubbards Cove, Hx. Co., N.S.; 16 July 1917.
Collector (c) and Donor (d). E. S. F. Piers (c.d.) Halifax.
Received. 6 Aug. 1917
No. of Specimens. 1 Male
Remarks. Cyrus Dauphinee, fisherman of Hubbards, says they call it a "Pot Skate", and that it often rolls itself up when caught (as this one did). He says they also live at Hubbards a much larger Skate which grows about 3 feet in length. People about there do not eat skates.
It rolled its pectoral fins under its body when caught.
Measurements: Total length, 20 1/4 inches; greatest width across pectorals, 12 ½ ins. Snout to posterior end of pectorals, 11 ½ ins.
Ventrals of 20 rays.
Teeth in 56 series
53
Jordan & Evermann give the teeth as about 50 series in each jaw.
No spines on central line of back and tail behind the head. Largest slightly hooked spines on the anterior extensions of the pectorals (opposite to the eyes); smaller spines are scattered over the upper part of snout, over the eyes and between the spiracles; a triangular patch on the back of head; about two main lines of spines and other subsidiary? Lines of spines on the back and tail, this median line of which is smooth. Small spines are scattered on the pectorals, their [the pectorals] base and extremity being mostly smooth, and two rows of large slightly hooked spines on each pectoral toward outer margin. (i.e. no spines on middle line of back from a little behind head to end of tail)
Colour. Above grayish-brown with numerous obscure round dark spots, 1/8th inch diameter. A translucent area on each side of snout. (No white ocellus, etc., near posterior angle of pectorals.) Claspers slaty-gray above, dark brown at extremity. Underparts bluish-white passing into slaty-white on outer margin of pectorals and ventrals, tail white. A few, irregular scattered, round blackish spots, from ½ (mostly) to 1/4 inch diameter, on various parts of undersides of pectorals and ventrals, and a few on underside of tail

Reference: Figure 26, Plate 28. Photograph of a line drawing of Little Skate by Harry Piers (Museum No. 4521, Negative No. 12,444).

Appendix 71: Accession Book No. 2: Page 104. Museum No. 4537

Museum No. 4537
Scientific Name. *Clupea harengus*, Linn.
Common Name. Common Herring.
Phylum, &c. Fish.
Locality and when collected. From school of these small fish in Hubbards Cove, Hx. Co., N.S.; 31 July 1917.
Collector (c) and Donor (d). E. S. F. Piers (c.d.)
Received. 6 Aug. 1917
No. of Specimens. 9 Young ("bait") doubtless of hatch of 1916.
Remarks. Length from 3.60 ins. (3.05 ins. to base of caudal) to 2.20 inches (1.90 ins. to base of caudal).
Head 3 5/6 times into length to base of caudal.
Lateral line of about 63 scales; dorsal fin with 19 rays.
Peritoneum black.
Vomer apparently with teeth.

Appendix 72: Accession Book No. 2: Page 104. Museum No. 4538

Museum No. 4538
Scientific Name. *Siphostoma fuscum,* (Storer) ? Or possibly a variety.
Common Name. Common Pipe-fish.
Phylum, &c. Fish.
Locality and when collected. In shallow, brackish water, at head of Hubbard"s Cove, near where Hubbard's River enters the cove, Hubbards, Hx. Co., N.S.; 31 July 1917.
Collector (c) and Donor (d). E. S. F. Piers (c.d.) Halifax, N.S.
Received. 6 Aug. 1917
No. of Specimens. 1; Male, (with egg-pouch)
Remarks. On 3rd August 1917, E. S. F. Piers saw another Pipe-fish among eel-grass at same place, but did not secure it.

Total length (snout to end of caudal)	6.38 inches
Length to base of caudal	6.12 inches
Greatest width of body between throat & anus	16 inch
Length of head	.81 inch
Length of snout to anterior edge of eye	.46 inch
Width of head	.14 inch
Snout to anus	2.61 inches
Length of body (posterior part of opercle to anus)	1.80 inches
Length of tail (anus to base of caudal)	3.51 inches
Length of egg-pouch	1.88 inches
Length of pectoral fin	.18 inch
Length of dorsal fin	1.00 inch
Length of caudal fin	.26 inch
Head in length to base of caudal, 7.55 times	
Body rings [including anal ring]-	19

Caudal rings	37
Fin rays-	Pectoral of 14
	Dorsal of 43 rays (verify this number)
	Caudal of 7 rays.

Dorsal fin on 3/4 + 10 + 3/4 rings (That is, on 4 3/4 Body rings + 6 3/4 caudal rings)
Egg-pouch extends from last body ring to 19th caudal ring (both inclusive)
Colour- Above olivaceous; browner on tail. Under parts from behind snout (and on under side of gill-cover) to anus, yellow; brightest on under edges of gill-cover and on sides. Egg pouch yellowish-brown.
Dorsal fin banded with brown.

Appendix 73: Accession Book No. 2: Page 105. Museum No. 4539

Museum No. 4539
Scientific Name. *Raja ocellata,* Mitchill (or else *Raja laevis*, Garman).
Common Name. Big Skate (or else Barndoor Skate).
Phylum, &c. Fish.
Locality and when collected. Taken in net or fish-trap by Cyrus Dauphinee, Hubbard's Cove, Hx. Co., N.S.; about 14 July 1917.
Collector (c) and Donor (d). (Bones collected by H. Piers, after they had been cleaned by marine animals, on 2 Aug. 1917.)
Received. 6 Aug. 1917
No. of Specimens. 1: Cartilaginous Skull & Vertebrae.
Remarks. Original length of fish about 50 inches (= 4ft. 2 ins.).

Length of skull	11.50 inches
Length of vertebrae [as here]	37.25 inches
Part of vertebrae missing, probably about	1.50 inches
	50.25 inches

The vertebrae were very beautiful and perfect and almost lace-like in appearance and white in colour when taken from the water; but on drying they became exceedingly fragile and difficult to preserve owing to their delicate nature. An attempt was afterwards (during August) made to have them retain their form and not break up, by heavily impregnating them with orange shelac varnish, but with little success. It is a just pity that such a delicate and beautiful structure cannot be satisfactorily preserved.
Cyrus Dauphinee, fisherman of Hubbards had got 2 or 3 of these large skates this season. He says they usually call them Skates; whenever the smaller ones, which roll themselves up when caught (such as Mus. No. 4522), they call "Pot Skates" (*Raja erinacea*). He says they live about Hubbards both the small Skates, and this larger species which later grows to about 3 feet in length.

Appendix 74: Accession Book No. 2: Page 110. Museum No. 4545

Museum No. 4545
Scientific Name. *Sphyrna zygaena,* Linnaeus.
Common Name. Hammer-headed Shark.

Phylum, &c. Fish.

Locality and when collected. Taken, tangled in a 3-inch mesh herring-net, about 2 miles off Prospect, Hx. Co., N.S.; 28 August, 1917.

Collector (c) and Donor (d). Peter Hardiman (c.d.) fisherman, Upper Prospect, Hx. Co., N.S. (Per Dominion Public Works Dept., Hx.).

Received. 29 Aug. 1917

No. of Specimens. 1 Young, (male?)

Remarks. This is the first specimen of Hammer-headed Shark recorded from Canadian waters. Has been reported as far north as Cape Cod.

Note.- The water in the North West Arm, Halifax, during the past week was very warm, up as high as 71 F.

Measurements.-

Total length	22.50 inches
Length, snout to base of caudal	15.50 inches
Snout to posterior part of jaw-bone	3.00 inches
Width of head ("hammer")	6.00 inches
Width of head at posterior part of jaws	2.10 inches
Length of nostril	.37 inch

Narrow groove extends from nostril for 1.10 inches along anterior edge of head.

3 rows of teeth in jaws

Weight, 1 1/4 lb. Without intestine.

Colour (when fresh).- Above Neutral Gray passing through Pale Neutral Gray to White on under parts. Top of head Deep Neutral Gray. Upper anterior edge of head narrowly edged with White. Posterior under surface of lateral extensions of head, bordered, for width of .30 to .40 inch, with Pale Neutral Gray. Anterior edges of 1st. And 2nd Dorsal fins and upper edge of caudal narrowly edged with Black.

See large, full-size drawings of this specimen, on file.

Upper Prospect,
Sept. 18, 1917

Mr. Harry Piers
Provincial Museum
Halifax, N.S.

Dear Sir:

I have received your letter, asking me to write you about the fish (the Hammer-head Shark) which was caught Aug. 28th about two miles off Prospect. It was tangled up in a herring-net (3 inch mesh) when we got it. It was quite a strange looking fish and some who had been fishing in foreign parts and had seen quite a few of the fish mentioned above, said the eyes were too far apart.

I am glad to hear you have had none like it before and shall think of you again if I chance to catch any more interesting fish.

Yours truly,

(Sgn) Peter Hardiman

Appendix 75: Accession Book No. 2: Page 125. Museum No. 4593

Museum No. 4593
Scientific Name. *Salmo salar,* Linnaeus.
Common Name. Common Atlantic Salmon ("Grilse").
Phylum, &c. Fish.
Locality and when collected. Taken in North River, near the school house, a few miles from Truro, Col. Co., N.S.; 25 Oct. 1915.
Collector (c) and Donor (d). Purchased from H. S. Cruikshank, Truro, N.S., for $8.00
Received. 20 April 1918
No. of Specimens. 1 Mounted in case.
Remarks. Weight 4 ½ lbs. Length 20 ins. to base of caudal.

Appendix 76: Accession Book No. 2: Page 125. Museum No. 4594

Museum No. 4594
Scientific Name. *Salvelinus fontinalis* (Mitchill).
Common Name. Brook Trout.
Phylum, &c. Fish.
Locality and when collected. Taken at Trout Lake, 2 ½ miles northwest of Middle Stewiacke, & between Brookfield & Smithfield, Col. Co., N.S.; 5 July 1917 (Trout Lake is 1 1/4 mi. WSW. of Barron Lake).
Collector (c) and Donor (d). H. S. Cruikshank (c.) Truro. Purchased for $1.25
Received. 20 April 1918
No. of Specimens. 1 Mounted on oval panel.
Remarks. Total length, 9.70 ins.; length to base of caudal, 8.35 ins.

Appendix 77: Accession Book No. 2: Page 128. Museum No. 4605

Museum No. 4605
Scientific Name. *Semotilus corporalis* (Mitchill). = *Semotilus bullaris* (Rafinesque).
Common Name. Fall-fish; Silver Chub.
Phylum, &c. Fish.
Locality and when collected. Taken with hook and worm, immediately below (east of) site of saw-mill (dam), in stream from Marsh Lake to Sackville River, 1 1/8 miles WSW of Lower Sackville, Hx. Co., N.S.; 5 May 1918.
Collector (c) and Donor (d). R. Frank Eager (c.d.) Bedford.
Received. 6 May 1918
No. of Specimens. 1: Young; about ½ adult size (The adult size is 18 inches)
Remarks. Family: Cyprinidae (Carps). "Maritime Provinces" (Halkett)
New Brunswick but not Nova Scotia (P. Cox)
This I believe is first record of this species from Nova Scotia.

Measurements.- Total length, 7.10 ins.; length to base of caudal, 6.0 ins.; greatest depth, 1.35 inch (at front of dorsal) greatest thickness .83 inch; length of head, 1.53 inch; diameter of eye .30 inch. Dorsal fin, front height 1 inch; hinder height .50 inch; base .65 inch. Ventral fin, front height .82 inch; hinder height .47 inch; base .25 inch. Anal, front height .80 in.; hinder height .43 in., base .67 in. Pectoral, length .90 in. Head in length (to base of tail) 4 (head 1.53 ins.); depth in length, 4 ½ (depth 1.35 inch at front of dorsal); eye in length of head 5 (eye .30 inch diameter).
Pharyngeal teeth, 5 and 2 on left side, and 4 and 2 on right side; that is "teeth two-rowed, 2,5 - 4,2".
Fin rays.- Dorsal of 9 rays, the last one much closer to the 8th then the others are to each other, & therefore it is possible it may be a ray split right down the base, in which case the dorsal would have been only 8 rays; pectorals 14; ventrals 8; anal 9. First ray of each fin simple, the last branched.
Scales:- 8 from lateral line to front of dorsal (excluding of lat. line), 49 in lat. line, 5 from lat. Line to vent (exclusion of lat. line) That is, scales 8 - 49 - 5. 18 (or 19, not more) scales before dorsal. Scales crossing abdomen behind ventrals. Barbel practically obsolete (probably because a young fish). Dorsal fin inserted midway between nostril and base of caudal, and a little behind ventrals. Caudal fin forked for about half its length. Premaxillaries protractile.
Colour before placing in preservative.- Blackish blue above, darkest on top of head; sides of head & opercle golden-silvery, under part of head slightly rosy white. Sides of body yellowish-silvery, a dark band just behind opercle from front end of lateral line to insertion of pectoral. Underparts silvery, with slight rosy tinge. No black spot at base of dorsal in front; in fact all fins unmarked by dark spots, etc. Iris golden, with a touch reddish on upper part. Peritoneum gray.

Reference: Figure 27, Plate 29. Sketch of fins of Fallfish by Harry Piers (Museum No. 4605, Negative No. 12,441)

Appendix 78: Accession Book No. 2: Page 131. Museum No. 4616

Museum No. 4616
Scientific Name. *Siphostoma fuscum* (Storer) ? variety.
Common Name. Common Pipefish.
Phylum, &c. Fish.
Locality and when collected. Taken with dip-net, close to surface, at wharf of Robt. T. McIllreith, Jollimore, west side of North West Arm, near Halifax, N.S.; 17 June 1918.
Collector (c) and Donor (d). W. B. McIllreith (c.d.) son of R.T. McIllreith, North West Arm, Hx.
Received. 19 Jun. 1918
No. of Specimens. 1 Female (without egg-pouch)
Remarks. See also 243, 2169, 3369, 3558, 3559, 4013, 4538
Measurements.- Total length, 7.68 inches; length to base of caudal, 7.39 ins.; tail to base of caudal, 4.17 ins.; tail (to base of caudal) 1.84 times in total length; head length, .92ins.; head 8.35 times in total length; snout, .46 ins.; snout 2 times in length of head; dorsal, length .34 ins.
Fins.- Dorsal, 45 (correct) rays; pectoral, 14 rays; anal, minute; caudal, about 6 rays.
19 body rings + 35 caudal rings.
Dorsal fin covers 5 3/4 body rings + 6 caudal rings (total 11 3/4 rings)

Differs from normal in having more rays (45) in dorsal than maximum normal number (40) mentioned by Jordan & Evermann, and in dorsal being on 11 3/4 rings instead of on only 9 rings. It must be either a variety or else a new species.

Colour.- After being in alcohol one day. Above, pale Wood Brown; sides pale Olive (darker than upper parts); underparts (underpart of snout, throat, belly, and underpart of tail) white tinged with pale Primrose Yellow; lower half of opercle, white tinged with purple. Dorsal fin banded with about 12 pale dark bands, and with about 10 minute black specks irregularly placed.

Appendix 79: Accession Book No. 2: Page 132. Museum No. 4622

Museum No. 4622

Scientific Name. *Notropis cornutus* (Mitchill), var. *fontalis* (Agassiz) = *N. megalops* (Rafinesque) Jordan & Evermann, no. 456 Jordan's Manual, no. 113.

Common Name. Shiner; Red-fin; Dace.

Phylum, &c. Fish.

Locality and when collected. Taken with artificial fly, at northwestern extremity of Wright's Lake, where North-East River flows out of lake, to south of Pockwock P.O., Hammonds Plains district, Hx. Co., N.S.; about end of June 1918.

Collector (c) and Donor (d). James T Thomson (c.d.) Spring Garden Road, Halifax (per. Jas. Egan).

Received. 6 July 1918

No. of Specimens. 2

Remarks. Family: Cyprinidae (Minnows).

Apparently there were a number of this species at this place. Mr. Thomson says they were very pretty when taken out of the water, but the colours faded afterwards. There are still traces of red at base of pectorals and adjacent flesh of belly, of one specimen.

Not noted in Jones's list. Reported by Dr. P. Cox as occurring in N.S.

(*N. cornutus*).

	A.	B.
Total Length	5.55 inches	5.50 inches
Length to base of caudal	4.60 inches	4.53 inches
Head, length	1.12 inches	1.10 inches
Eye	.25 inch	.24 inch
Depth of body	1.27 inches	1.23 inches

Eye, 4 ½ times in head. Head 4 1/6 times in length to base of caudal. Depth, 3 2/3 times in length.

Scales: 7 or 8 (from lat.[lateral] line to dorsal) - 43 in lat. line - 4 or 5 (from lat. line to vent)

Fin rays: Dorsal, 9 rays (in both specimens)

Pharyngeal teeth: 2,4 - 4,2 (in specimen B) (These teeth are in vial in the jar)

Reference: Figure 87, Plate 92. Original note by Harry Piers concerning 2 Common Shiner captured at Wright Lake, Halifax Co., N.S. about end of June 1918.

Appendix 80: Accession Book No. 2: Page 134. Museum No. 4630

Museum No. 4630
Scientific Name. *Raja ocellata,* Mitchill ?
Common Name. Skate.
Phylum, &c. Fish.
Locality and when collected. Hubbards Cove, Hubbards, Hx. Co., N.S.; about 21 July 1918.
Collector (c) and Donor (d). H. Piers (c.).
Received. 7 Aug. 1918
No. of Specimens. 1 Cartilaginous Cranium and anterior Vertebrae of *Raja ocellata*, Mitchill?
Remarks. Length of cranium, 4.50 inches.

Appendix 81: Accession Book No. 2: Page 134. Museum No. 4633

Museum No. 4633
Scientific Name. *Thunnus thynnus* (Linn.).
Common Name. Tunny; Horse Mackerel; Great Albacore.
Phylum, &c. Fish.
Locality and when collected. From fish taken in St. Margaret's Bay, off Hubbards, Hx. Co., N.S.; July 1918.
Collector (c) and Donor (d). Lawson Harnish (c.d.) albacore harpooner, Hubbards, N.S.
Received. Received by H. Piers, 23 July 1918.
No. of Specimens. 1 Adult series of 4 of the last posterior Caudal Vertebrae of *Thunnus thynnus* (Linn.).
Remarks. Shows processes on sides of vertebrae, to support the lateral fleshy keels of tail.

Appendix 82: Accession Book No. 2: Page 135. Museum No. 4636

Museum No. 4636
Scientific Name. *Siphostoma fuscum* (Storer) ? Variety.
Common Name. Common Pipe-fish. (variety).
Phylum, &c. Fish.
Locality and when collected. At surface of water, alongside of Peter Dauphinee's wharf east side of Hubbards Cove, Hubbards, Hx. Co., N.S.; 25 July 1918.
Collector (c) and Donor (d). E. S. F. Piers (c.d.) Halifax.
Received. 7 Aug. 1918
No. of Specimens. 1 Male (with egg-pouch).
Remarks. Family: Syngnathidae.
Total length, 5.92 inches
Dorsal fin rays, 43. Dorsal fin covers 5 full body-rings + 7 full caudal-rings, total 12 full rings.
Body rings, 19; caudal rings, 36.
Dorsal fin with 11 or 12 obscure dark bands.
Underparts sulphur-yellow in life.

Differs from normal in having 43 dorsal fin rays, instead of the normal maximum of 40. And more markedly in having the dorsal on 12 full rings, instead of the normal maximum of 9 (or possibly 10) as given by Jordan & Evermann.

Appendix 83: Accession Book No. 2: Page 135. Museum No. 4637

Museum No. 4637
Scientific Name. *Siphostoma fuscum* (Storer)? Variety.
Common Name. Common Pipe-fish. (variety).
Phylum, &c. Fish.
Locality and when collected. At surface of water, alongside of Peter Dauphinee's wharf east side of Hubbards Cove, Hubbards, Hx. Co., N.S.;25 July 1918.
Collector (c) and Donor (d). E. S. F. Piers (c.d.) Halifax.
Received. 7 Aug. 1918
No. of Specimens. 1 Female (without egg-pouch).
Remarks. Family: Syngnathidae.
Total length, 5.70 inches.
Dorsal fin rays, 43.
Body rings 19; caudal rings 37.
Dorsal fin covers 5 full body-rings + 7 full caudal-rings, total 12 full rings.
Dorsal fin with about 12 blackish bands.
Differs from normal precisely as mentioned above under acc. no. 4636.
(obtained with acc. no. 4636, - doubtless a pair, male & female).

Appendix 84: Accession Book No. 2: Page 136. Museum No. 4645

Museum No. 4645
Scientific Name. *Raja ocellata,* Mitchill (?), Probably *R. ocellate* or less likely *R. laevis*.
Common Name. Skate.
Phylum, &c. Fish.
Locality and when collected. Hubbards, Hx. Co., N.S.; about July 1918.
Collector (c) and Donor (d). Jeremiah Harnish (c.d.) Hubbards, N.S.
Received. (Received from Jeremiah ("Jery") Harnish, on 4 Aug. 1918).
No. of Specimens. 1 Cartilaginous Cranium of *Raja ocellate*
Remarks. The fish itself was not seen by H. Piers.
Length of cranium, 12 inches. (Total length of fish, probably about 60 inches).

Appendix 85: Accession Book No. 2: Page 142. Museum No. 4675

Museum No. 4675
Scientific Name. *Pygosteus pungitius* (Linnaeus). J. & E. No. 1097.
Common Name. Nine-spined Stickleback.

Phylum, &c. Fish.
Locality and when collected. Taken in small brook (locally known as "Skating Pond Brook" which flows from so-called "Skating Pond"), at Indian Reservation or settlement, 1 mile SE of Elmsdale station, Hx. Co., N.S.; 13 Nov. 1918.
Collector (c) and Donor (d). Jerry Lone-cloud (c.d.), Dartmouth, N.S.
Received. 15 Nov. 1918
No. of Specimens. 1
Remarks. Totai length, 1.67 inch; length to base of caudal 1.43 [inch]; head .42 [inch]; depth .25[inch].
Head in length, 3.40 times; depth in length, 5.72 (exclusion of caudal fin).
Fin formula; Dorsal VIII-I,10 [spines, spine and rays]; pectoral, 10 [rays]; anal, I.9 [spine, rays]; caudal, 12 [rays].
Ventral spine, length .14 inch (about 1/3rd length of head).
Colour (olive).- Above olivaceous punctuate and blotched and irregularly barred with fuscous. Underparts silvery, brightest on lower posterior sides of head.
(Seems to show a tendency towards *P. pungitius brachypoda* (Bean))

Reference: Figure 88, Plate 93. Original note by Harry Piers concerning one specimen of Ninespine Stickleback captured 1 mile SE of Elmsdale Station, Halifax Co., N.S. On 13 November 1918.

Appendix 86: Accession Book No. 2: Page 146. Museum No. 4695

Museum No. 4695
Scientific Name. *Anguilla chrysypa*, Rafinesque.
Common Name. American Eel.
Phylum, &c. Fish.
Locality and when collected. Shubenacadie River, Elmsdale, Hants-Hx. Co., N.S.; 12 Feb. 1919.
Collector (c) and Donor (d). Jerry Lone-cloud (c.) Dartmouth, N.S.
Received. 22 Feb. 1919
No. of Specimens. 1 Skin of *Anguilla chrysypa,* Rafinesque.
Remarks. (Length of skin, without head, 30 inches)
In ancient times, according to Indian Lone-cloud, the Micmac Indians used thin thongs of eel-skin for hair strings, for tying their hair. The skins were also bound onto parts of the body affected with rheumatism. Strips of eel-skin, an inch wide, make the very best flail strings, or thongs for connecting handles and end of flails for threshing grain.

Appendix 87: Accession Book No. 2: Page 149. Museum No. 4712

Museum No. 4712
Scientific Name. *Xiphias gladius,* Linn.
Common Name. Common Swordfish.
Phylum, &c. Fish.
Locality and when collected. Taken off Shag Bay, Hx. Co., N.S.; summer of 1915.
Collector (c) and Donor (d). D. Coolin [Coolen] (c.), Shag [Shad]Bay.
Received. 6 Sept. 1916.

No. of Specimens. 1 Sword
Remarks.
Sword of *Xiphias gladius* Linn. which weighed 448 pounds. Present length of sword, 43 inches, but as about 6 or 7 inches of point had been broken off, the original length must have been 49 or 50 inches; the width at base is 4.90 inches. Weight of sword now 3 ½ lbs.
Omitted accessioning this specimen under 1916, when it was received.
This specimen of a large sword of Swordfish was shown in Fisheries Building, at Provincial Exhibition, Halifax, N.S.; 8 Sept. of 1915, and was left there and was taken for the Museum on 6 Sept. 1916. Marked on the sword was Weight of fish 448 lbs.

Appendix 88: Accession Book No. 2: Page 159. Museum No. 4786

Museum No. 4786
Scientific Name. *Gasterosteus gladiunculus*, Kendall.
Common Name. [none given]
Phylum, &c. Fish.
Locality and when collected. Mouth of Sissibou River, St. Mary's Bay, Digby Co., N.S.; 30 June 1919.
Collector (c) and Donor (d). Dr. Philip Cox (c.d.), Fredericton, N. B.
Received. 3 Sept. 1919
No. of Specimens. 5
Remarks. Dr. Cox says this species seems to be uncommon there, as he has only seen 9 (nine) specimens during the summer. He considers it to be a good species. (vide his letter of 1 Sept. 1919).
(The locality on the original label seems to be "Sissibou River quay" the last word being possibly doubtful). However Dr. Cox says they are "from the mouth of Sissibou River".

Reference: Figure 101, Plate 106. Original note by Harry Piers on five specimens of Threespine Stickleback collected at St. Marys Bay, Digby Co., N.S. On 30 June 1919 by Philip Cox.

Appendix 89: Accession Book No. 2: Page 167. Museum No. 4827

Museum No. 4827
Scientific Name. *Liopsetta putnami* (Gill). Young.
Common Name. Eel-back Flounder.
Phylum, &c. Fish.
Locality and when collected. Near Halifax, N.S.; about 4 Jan.1920.
Collector (c) and Donor (d). Found among a bunch of smelts purchased by Mrs. H. Piers at Boutiliers fish-market, Halifax, 9 Jan. 1920, and doubtless taken in same of the shallow estuary along our coast near Halifax.
Received. 9 Jan. 1920
No. of Specimens. 1 Young.
Remarks. In the bunch was also a small Sculpin (*L. senpinus groenlandicus*) about 5 inches long.
The length of pectoral fin compressed with length of head shows this to be clearly *L. putnami*, not *L. glacialis*.

Eyes on right side; lateral line about straight;- colour brownish-gray, spotted with dark; underside white.

Total length	3.10 ins
Length to base of caudal	2.50 ins.
Depth	1.18 ins.
Head	.72 in.
Pectoral fin	.40 in.

Head in length, 3 5/10 times
Depth in length, 2 1/10 times
Pectoral in head, 1 8/10 times
D. [dorsal fin] 49 [rays]; V. [ventral fin] 36. Lateral line 69 (normally: D[dorsal]55 [rays], A [anal fin]40 [rays]; lat. [lateral] line, 70; length 10 ins.).

Appendix 90: Accession Book No. 2: Page 178. Museum No. 4901

Museum No. 4901
Scientific Name. *Raja laevis,* Mitchill; adult male. Jaws of.
Common Name. Barn-door Skate.
Phylum, &c. Fish.
Locality and when collected. Southeast side of inner cove, off Simon Dauphinee's, Hubbard's Cove, Hx. Co., N.S.; 28 July 1920.
Collector (c) and Donor (d). H. Piers (c.)
Received. [not given]
No. of Specimens. 1 [Jaws of adult male]
Remarks. Male, with claspers

Teeth 35 in 5 to 12 rows
32 6 to 12 rows

Total length of fish, 54.50 inches (= 4 ft. 6 ½ ins); greatest width across pectorals, 40.50 ins. Very few spines on middle of back of head. Row of spines on upper side of "wings" (as indicated in sketch). Middle line of tail above with row of smallish spines; another row near margin of tail. Colour.- above, greyish-brownish. Colour beneath, greyish about underside of head; white on rest of underside of body, with a very few, irregularly scattered dark spots about 3/4 inch diameter.

References: Figure 28, Plate 30. Rough sketch of Barndoor Skate by Harry Piers (Museum No. 4901, Negative No. 23,464)

Figure 29, Plate 31. Sketch of Barndoor Skate by Harry Piers (Museum No. 4901, Negative No. 12,445)

Appendix 91: Accession Book No. 2: Page 184. Museum No. 4929

Museum No. 4929
Scientific Name. *Catostomus commersonii* (Lacepede).
Common Name. Common Sucker.

Phylum, &c. Fish.
Locality and when collected. Elmsdale, Shubenacadie River, Hx.-Hants Co., N.S.; Aug. 1919.
Collector (c) and Donor (d). A. H. Leim (c.) Atlantic Biological Station, St. Andrew's, N.B. (d.).
Received. 9 Sept. 1920
No. of Specimens. 2
Remarks. Total lengths: 4.68 & 5.30 ins.

Appendix 92: Accession Book No. 2: Page 184. Museum No. 4930

Museum No. 4930
Scientific Name. *Chrosomus erythrogaster,* Rafinesque.
Common Name. Red-bellied Dace.
Phylum, &c. Fish.
Locality and when collected. Shubenacadie River,Hx.-Hants Co., N.S.; Aug. 1919.
Collector (c) and Donor (d). A. H. Leim (c.) Atlantic Biological Station, St. Andrew's, N.B. (d.).
Received. 9 Sept. 1920
No. of Specimens. 6
Remarks. Total length from 1.95 to 2.20 ins.
Exact locality on Shubenacadie River not given, but was either Milford, Elmsdale or Enfield.

Appendix 93: Accession Book No. 2: Page 184. Museum No. 4931

Museum No. 4931
Scientific Name. *Semotilus atromaculatus* (Mitchill).
Common Name. Horned Dace; Creek Chub.
Phylum, &c. Fish.
Locality and when collected. Milford, Shubenacadie River, Hx.-Hants Co., N.S.; Aug. 1919.
Collector (c) and Donor (d). A. H. Leim (c.) Atlantic Biological Station, St. Andrew's, N.B. (d.).
Received. 9 Sept. 1920
No. of Specimens. 2
Remarks. This species was numerous at Milford
Total lengths: 5.35 and 5.73 ins.

Appendix 94: Accession Book No. 2: Page 184. Museum No. 4932

Museum No. 4932
Scientific Name. *Notemigonus [Abramis] chrysoleucus* (Mitchill).
Common Name. Golden Shiner.
Phylum, &c. Fish.
Locality and when collected. Elmsdale, Shubenacadie River, Hx.-Hants Co., N.S.; the 2 smaller specimen, 22 May 1920; the largest one, 7 July 1920.

Collector (c) and Donor (d). A. H. Leim (c.) Atlantic Biological Station, St. Andrew's, N.B. (d.).
Received. 9 Sept. 1920
No. of Specimens. 3
Remarks. Total lengths: spec. [specimens] of 22 May, 5.04 and 5.10 ins; spec. [specimen]of 7 July, 5.75 ins.

Appendix 95: Accession Book No. 2: Page 184. Museum No. 4933

Museum No. 4933
Scientific Name. *Notropis cornutus* (Mitchill).
Common Name. Shiner; Red-fin.
Phylum, &c. Fish.
Locality and when collected. Elmsdale, Shubenacadie River, Hx.-Hants Co., N.S.; Aug. 1919.
Collector (c) and Donor (d). A. H. Leim (c.) Atlantic Biological Station, St. Andrew's, N.B. (d.).
Received. 9 Sept. 1920
No. of Specimens. 2
Remarks. Species abundant at Elmsdale
Total lengths: 4.55 and 4.65 ins.

Appendix 96: Accession Book No. 2: Page 184. Museum No. 4934

Museum No. 4934
Scientific Name. *Couesius plumbeus* (Agassiz).
Common Name. [none given]
Phylum, &c. Fish.
Locality and when collected. Enfield, Shubenacadie River, Hx.-Hants Co., N.S.; Aug. 1919.
Collector (c) and Donor (d). A. H. Leim (c.) Atlantic Biological Station, St. Andrew's, N.B. (d.).
Received. 9 Sept. 1920.
No. of Specimens. 4
Remarks. Total lengths: 2.50, 2.64, 3.08, and 3.85 ins.

Appendix 97: Accession Book No. 2: Page 184. Museum No. 4935

Museum No. 4935
Scientific Name. *Fundulus diaphanus* (LeSueur).
Common Name. Gray-back Minnow; Killifish; Freshwater "Minnow".
Phylum, &c. Fish.
Locality and when collected. Milford, Shubenacadie River, Hx.-Hants Co., N.S.; Aug. 1919.
Collector (c) and Donor (d). A. H. Leim (c.) Atlantic Biological Station, St. Andrew's, N.B. (d.).
Received. 9 Sept. 1920.
No. of Specimens. 3
Remarks. Total lengths: 2.80, 2.95, & 3.30 ins.

Appendix 98: Accession Book No. 2: Page 184. Museum No. 4936

Museum No. 4936
Scientific Name. *Perca fluviatilis*, Linn. (= *P. flavescens* (Mitchill)).
Common Name. Yellow Perch.
Phylum, &c. Fish.
Locality and when collected. Milford, Shubenacadie River, Hx.- Hants Co., N.S.; Aug. 1919.
Collector (c) and Donor (d). A. H. Leim (c.) Atlantic Biological Station, St. Andrew's, N.B. (d.).
Received. 9 Sept. 1920.
No. of Specimens. 1
Remarks. Total length: 7.50 ins.

Determined as *Perca fluviatilus* by Dr. Philip Cox.

Dr. Philip Cox, in his letter of 3rd Sept, 1920, relating to the forwarding of the above specimens writes, "I cannot find any mature *Semotilus billaris*. The young perhaps 1 year old, appear in small numbers but are of the peculiar colour pattern on which Storer founded the *S. pulchellus* which has disappeared from the lists. I am therefore not including them; but after a more extensive study than I could possibly make here (at St. Andrews, N. B.) shall write you and also send specimens."

Reference: Figure 30, Plate 32. Rough laboratory notes by Harry Piers concerning fishes in Shubenacadie River by A. H. Leim (Museum Nos 4929 to 4936, Negative No. 23,483)

Appendix 99: Accession Book No. 2: Page 185. Museum No. 4940

Museum No. 4940
Scientific Name. *Prionace glauca* (Linn.).
Common Name. Great Blue Shark.
Phylum, &c. Fish.
Locality and when collected. Taken with hook, baited with codfish, about 3 miles east of Chebucto Head, entrance of Halifax Harbour, Hx. Co., N.S.; 23 Sept. 1920.
Collector (c) and Donor (d). Pilot Edward V. Renner (c.d.) No. 2 Pilot Boat, Halifax.
Received. 29 Sept. 1920.

No. of Specimens. 1 Jaws, and basal part of Skull (the latter with the snout portion cut off).

Remarks. See also 3778. These sharks apparently first appeared about 15 Aug. 1920, were very abundant about 25 Aug., and by 23 Sept. Only one was seen. Family:

Galeidae Teeth in 27 rows; serrated
26

From an individual which measured about 6 feet from snout to tip of tail. One aspect of the skull has a curious resemblance to the trunk of a female body.

This specimen was the only one seen by No. 2 Pilot Boat during the week it was out on that trip, about 20 to 27 Sept./20. It was caught with a hook attached to a wire mode to prevent the fish biting off the hook, and the bait used was codfish.

It was the same, say the pilots, as the sharks which were very plentiful in the entrance of Halifax Harbour for a period about 25 th August of this year; but the other ones got further in than this one. They "fin" a lot at surface of the water (show the dorsal fin), like a Swordfish. They were extremely voracious, snapping up every morsel thrown to them. Renner says that sometimes they would pierce one through with the iron shaft of a harpoon, and yet it would swim about so pierced, and come and eat scraps thrown to it. Renner says that one of those previously seen was over 20 feet long, a monster, and with it were lots of smaller ones about 10 feet long. (Vide Pilot Renner).

One of the Pilots told me a few weeks ago, that they had taken about 20 of these sharks with harpoons and hooks from the pilot boat. He had never heard of a shark attacking a person on our Nova Scotian coast.

The "Daily Echo" newspaper of Halifax, of Frid., 27 Aug. 1920, had an article about the presence of these voracious sharks off Halifax. It said that during the week of about 15-22 August the pilots noticed a few of the sharks in the water outside; but during the week of about 22-27 Aug. 1920 they were very plentiful. In past our pilot said that he had never seen so many. The pilots captured about a score and destroyed them, yet the waters were fairly swimming with them. It was said that they were what the fishermen call "blue sharks". They travel very fast. Every year a few sharks make their appearances off the coast, but seldom do they come inshore and never in such numbers as now reported. On Tues., 24th Aug. the men on No. 2 Pilot Boat decided to destroy some of them, & on that day they harpooned 7. on Wed., 25 Aug. more were captured. One of the fish taken is said to have measured about 10 feet and weighed between 500 and 600 pounds. The paper said that sharks have been seen in the Harbour and North West Arm before frequently.

Appendix 100: Accession Book No. 2: Page 185. Museum No. 4941

Museum No. 4941

Scientific Name. *Carcharhinus obscurus* (LeSueur) or *Prionace glauca* (Linn.).

Common Name. Dusky Shark or Great Blue Shark.

Phylum, &c. Fish.

Locality and when collected. Caught with hook & line, baited with fish, by crew of No. 2 Pilot Boat (schooner), at entrance of Halifax Harbour, 4 miles southeast of Chebucto Head, Hx. Co., Nova Scotia; about noon, Sun., 10 October 1920.

Collector (c) and Donor (d). Crew of No. 2 Pilot Boat (c.) Pilot James G. Renner, No. 2 Pilot Boat, Halifax (d.)

Received. 11 Oct. 1920.

No. of Specimens. 1

Remarks. Only shark seen during that trip of the pilot boat 4-10 Oct.
Colour above, dark bluish-grey; below, white.
Attached to the side of the shark had been a sucking-fish, about 7 or 8 inches long, either *Echinis naucrates* L. Sucking-fish, or *Remora remora* (L.) Remora.
Sent to L. A. Purcell, but never returned.
Skin went bad

References: Figure 31, Plate 33. Original sketch of Blue Shark from about 3 miles east of Chebucto Head (Museum No. 4941: Negative No. 23,498)

Figure 32, Plate 33. Sketch of Blue Shark from about 3 miles east of Chebucto Head (Museum No. 4941: Negative No. 12,442)

Figure 33, Plate 34. Correspondence to Harry Piers from H. F. Moore dated 8 October 1920 concerning the identification of shark jaws (Museum No.4941: Negative No. 23,460)

Figure 34 A, Plate 35 and Figure 34 B, Plate 36. Draft of two page correspondence to H. F. Moore by Harry Piers dated 26 October 1920 concerning the identification of shark jaws (Museum No. 4941: Negative No's 23,457 and 23,459)

Figure 35 A, Plate 37 and Figure 35 B, Plate 38. Two page correspondence to Harry Piers from H. F. Moore dated 7 December 1920 concerning the identification of shark jaws (Museum No. 4941: Negative No's 23,453 and 23,454)

Appendix 101: Accession Book No. 2: Page 198. Museum No. 4995

Museum No. 4995
Scientific Name. *Salvelinus fontinalis* (Mitchill). Male.
Common Name. Brook Trout; Lake Trout.
Phylum, &c. Fish.
Locality and when collected. Caught with minnow, while fishing off Giles Point on east side of middle of Morris (McDonald) Lake, 1/4 mile SE. of the island, and 3 miles ESE of Dartmouth, Hx. Co., N.S.; morning of 5 June, 1921 (was landed 10 minutes after being hooked).
Collector (c) and Donor (d). George Robert Foster (c.d.) Porter of Halifax Hotel, of Portland St., Dartmouth.
Received. 7 June 1921
No. of Specimens. 1
Remarks. This is without doubt an ordinary Lake Trout which had run to sea, and so increased greatly in size (becoming what is called a Sea Trout), and then had returned to the lake again and been long enough (at least one year) in freshwater to re-assume the dark colour and red spots of the normal freshwater trout.
The spot where this trout was taken is 4 1/4 miles from the sea at Cow Bay, and the outlet (southern end) of the lake is 3 1/4 miles from the sea at Cow Bay. The stream from this lake flows for 2 1/4 miles into Cow Bay Pond. The lake is 2 1/4 miles long, and varies in width from 1/8 to nearly ½ mile.
Measurements: Total length, snout to end of caudal fin, 22 inches (21 ½ ins. with lower jaw closed), greatest depth 5.75 inches; greatest width, 4.00 ins.; length of head 4.90 ins.; upper

maxillary 3 ins. long; and extends .80 inch behind posterior margin of eye. Length, snout to base of caudal fin, 19.40 inches. Head in length to base of caudal, 4 times. Depth in length, about 3 ½ times. Dorsal fin of 10 rays; anal fin of 8 or 9 rays.

Weight 5lbs. 13 oz. when taken out of water, and 5 3/4 lbs. (5 lbs. 12 oz.) when Foster got it home. It weighed 5 lbs. 10 oz. when received at Museum on 7 June, some moisture being dried out of it.

Colour.- Was very dark coloured when taken, and had very many red spots on the sides, and also blackish spots. Has since faded to a much lighter colour.

Colour as noted on 8 June:- Colour blackish-brown on back, becoming brownish on sides, and passing into brownish-yellow on lower parts of sides, and white on belly. The brownish sides are spotted with many brownish-yellow spots and some of them somewhat silvery, about .10 to .12 inch diameter, with about 38 distinct dark crimson spots on each side. On the right side there are 33 of these small red spots below the lateral line, and 5 of the red spots above the lateral line (total 38 red spots on right side). The lower fins (pectorals, anal and ventral) are marked with red, mostly towards the outer ends. Compare with Acc. No. 3370

Harold St. Clair Silver says he was with John Y. Payzant when the latter (Payzant) hooked the 7 ½ lb. Sea Trout which is now in this Museum. It was unmistakeably a sea trout, bright and freshly run. It was taken at north end of Salmon Hole, Little Salmon River, Preston, after the first heavy rain in July (1871). Preserved in 8 parts water to 1 part formaldehyde on 8 June 1921.

Harold St. Clair Silver and Jos. T. Egan both positively agreed that it is a Lake Trout, and that it has not the larger scales, etc. of real Sea Trout. George Chapman, guide of Waverley, Hx. Co., positively says, that it is a trout which had run to sea, and which had been back in fresh water over winter and again assumed the colour of the Lake Trout. Chapman affirms that trout while in salt water have no teeth on the tongue; while when in freshwater (?) they have teeth on the tongue and on the right side of inner part of jaw far back in mouth. Harold St. C. Silver agrees that the fish had once been to sea but had been sometime back in the lake and regained the colours of a Brook or Lake Trout.

Comparative Table of Very Large Brook and Sea Trout

Acc. No.	Name	Sex	Locality	Date	Collector	Caught With	Weight	Total Length	Girth	Remarks
In Prov. Mus.	Sea Trout		Little Salmon River	July 1871	John Payzant	Artificial Minnow	7 ½ lbs.	24 ins.	17 ins.	
3370	Brook Trout	M	Little Salmon River	30 May 1909	Simon Meaden	Minnow	6 3/4 lbs.	23 1/4 ins.	15 1/4 ins.	
----	Brook Trout		Little Salmon River	Aug. about 1912	Harold St. C. Silver	Fly	6 1/4 lbs.			Vide H. St. C. Silver
----	Brook Trout		Flat Lake	early 80s	Fred Morris	Artificial Fly	About 6 lbs.			Vide Geo. Mullens
4995	Brook Trout	M	Morris Lake	5 June 1921	Geo. R. Foster	Minnow	5 lbs.	22 ins.	14 ins.	

----	Sea Trout	Little Salmon River	July 1871	John Y. Payzant	Artificial Minnow	5 1/4 lbs.	Vide H. St. C. Silver
----	Trout	Lake Major	2 May	James Gentles		5 ½ lbs.	Vide Ac. Records

Appendix 102: Accession Book No. 2: Page 199. Museum No. 4997

Museum No. 4997
Scientific Name. *Raja* sp.
Common Name. Skate. So-called "Devil's Pocketbook" or "Sea-purse".
Phylum, &c. Fish.
Locality and when collected. Cow Bay, Hx. Co., N.S.
Collector (c) and Donor (d). Mrs. Amelia Reid (c.d.) Bedford, N.S.
Received. 9 June 1921
No. of Specimens. 1 Egg-case of *Raja* sp.
Remarks. [none given]

Appendix 103: Accession Book No. 2: Page 200. Museum No. 5014

Museum No. 5014
Scientific Name. *Roccus lineatus* (Bloch).
Common Name. Striped Bass.
Phylum, &c. Fish.
Locality and when collected. At mouth of Shubenacadie River, at Black Rock, Col. Co., N.S.; on or about 20 May 1921
Collector (c) and Donor (d). Mr. McNutt (c.) Purchased from H. S. Cruikshank. Truro
Received. 21 July 1921
No. of Specimens. 1
Remarks. Weight of fish, 18 lbs. [see Mus. No. 5015, paper mache cast of Mus. No. 5014]

Appendix 104: Accession Book No. 2: Page 202. Museum No. 5021

Museum No. 5021
Scientific Name. *Hemitripterus americanus* (Gmelin) J & E. p. 2023.
Common Name. Sea Raven.
Phylum, &c. Fish.
Locality and when collected. Caught at ferry wharf, at mouth of North West Arm, Halifax County, N.S.; 22 Aug. 1921.
Collector (c) and Donor (d). Charles Allen (c.d.) Halifax.
Received. 23 Aug. 1921.

No. of Specimens. 1

Remarks. Total length 10.40 ins. Head 2 2/3 in length; depth 3 2/3 in length.
Fin rays: D. IV,XII, I, 13; A. 14; V. I,3
(With it was taken *Myoxocephalus octodecimspinosus* (Mitchill), 18 spined sculpin, which was not purchased. Total length 12 ins. Head 2 3/4 [in length]; depth, 5 ½ [in length]. D.[dorsal fin] VIII-15 [spines-rays]; A [anal fin], 13 [rays]; V [ventral fin], I,3 [spine, rays]).

Appendix 105: Accession Book No. 2: Page 202. Museum No. 5025

Museum No. 5025
Scientific Name. Egg of *Squalus acanthias*, Linn.
Common Name. Dog-fish.
Phylum, &c. Fish.
Locality and when collected. From a fish taken off Halifax Harbour, Halifax Co., N.S.; 21 Sept. 1921.
Collector (c) and Donor (d). A fisherman (c.) Jos. Perrin (d.) from McNabs Island, Hx.
Received. 23 sept. 1921.
No. of Specimens. 1
Remarks. The fish was about 3 ½ lbs. in weight, and the eggs were not out of it. Colour of egg, yellow-white. Size of egg, 1.65 in. X 1.35 in. Weight 26 ½ grams.

Appendix 106: Accession Book No. 2: Page 203. Museum No. 5029

Museum No. 5029
Scientific Name. *Pomolobus pseudoharengus* (Wilson). Young.
Common Name. Alewife; Gaspereau.
Phylum, &c. Fish.
Locality and when collected. In Shubenacadie River at Elmsdale Bridge, Elmsdale, Hx-Hants Co., N.S.; 29 Sep. 1921.
Collector (c) and Donor (d). Jerry Lone-cloud (c.d.).
Received. 30 Sept. 1921
No. of Specimens. 4
Remarks. These young Gaspereau have been coming down the Shubenacadie River, trying to get to sea, but have been held there for about a month, owing to the very low water, as result of the excessively dry season. Cannot get to the sea. Immense numbers of them there. Said that Eels which are also going down, are feeding on them. There are more small Gaspereau then the larger, young ones. All of this years hatch according to Lone-cloud. Lone-cloud says that the young Gaspereau usually run down for about a month, starting about middle of August, and that they have usually all gone to sea by 15th to 20th Sept.

	Total length	Head in length	Depth in length	Eye in head	1st. ray of dorsal	Base of dorsal
(a)	6.30 inches	3 9/10 times	3 2/3 times	4 times	.73 inch	.80 inch
(b)	4.05 inches	4 times	3 4/5 times	3 ½ times	.43 inch	.49 inch
(c)	3.35 inches	4 times	3 4/5 times	3 ½ times	.34 inch	.44 inch
(d)	3.15 inches	4 times	4 times	3 ½ times	.35 inch	.38 inch

Peritoneum of (b), (c) and (d) slightly darker then in (a)

Appendix 107: Accession Book No. 2: Page 230. Museum No. 5146

Museum No. 5146
Scientific Name. *Germo alalunga* (Gmelin). Large adult.
Common Name. Long-finned Albacore.
Phylum, &c. Fish.
Locality and when collected. Taken on a halibut trawl, off Devil's Island, near Halifax Harbour, N. S.; 8 Sep. 1922.
Collector (c) and Donor (d). A fisherman (c.) Boutiliers Ltd. (d.) Halifax.
Received. Examined by Harry Piers on 9 September 1922.
No. of Specimens. 1
Remarks. The trawl hook caught the fish close to the left eye.
Was exhibited as a fish of unknown name, at Boutiliers Ltd. fish market, Bedford Row, Hx., on 9 Sept. when I examined and measured it, and identified it.

Total length (snout to end of caudal)	47.75 inches
Length to end of vertebrae (base of caudal)	42.00 inches
Pectoral fin (length)	17.00 inches
Head 12.50 inches	
Head in length, 3.36 times	
Finlets yellow	

This is the second known occurrence of this species on the coast of Nova Scotia, one having been taken in the summer of 1878 on a trawl-line on Banquereau, to the northward of Sable Island. That specimen was obtained by Capt. William Thompson, of the schooner "Magic" of Gloucester, Mass. at a depth of 300 fathoms. (See Goode & Bean's List of Fishes of Massachusetts Bay, 1879, and included on that authority by J. M. Jones in his List of the Fishes of Nova Scotia, 1879, Trans. N. S. I. N. S., vol.5, p. 88).
This species occurs in tropical seas and is pelagic and widely distributed. It is rarely seen on the Atlantic Coast of America but is very common in the Mediterranean. It is found on the Pacific Coast as far north as San Francisco, & is extremely abundant in the spawning season about the Santa Barbra Islands.
Its occurrence on the Nova Scotia Coast is purely accidental. The usual length is 3 feet.

Appendix 108: Accession Book No. 2: Page 232. Museum No. 5152

Museum No. 5152
Scientific Name. Photograph of *Alopias vulpes* (Gmelin).
Common Name. Thresher; Fox-shark.
Phylum, &c. Fish.
Locality and when collected. Captured in Eli James's fish-weir, Horseshoe Cove, Cape d'Or, Minas Channel, Cumberland Co., N. S.; 26 Jul. 1922.
Collector (c) and Donor (d). Eli James (c.) East Advocate, Cumb. Co., N. S.: Miss Bessie James donated the photograph.
Received. 20 Sep. 1922
No. of Specimens. 1
Remarks. This shark was given to a man who skinned it. It was the first of its kind ever seen in those waters. The species is uncommon in the waters of Nova Scotia.
Total length of the shark, 15 feet; tail, 7 ft. 6 ins.

Reference: Figure 36, Plate 39. Photograph of Thresher Shark from Minas Channel (Museum No. 5152, Negative No. 23,788)

Appendix 109: Accession Book No. 2: Page 233. Museum No. 5155

Museum No. 5155
Scientific Name. *Monacanthus hispidus* (Linnaeus).
Common Name. Fool Fish; File Fish.
Phylum, &c. Fish.
Locality and when collected. Taken in a herring net, in about 5 fathoms of water, near Bald Rock, about 1 mile south of Prospect (Upper Prospect), at mouth of Prospect Bay, westward of Halifax, Hx. Co., N. S.; 20 Sep. 1922.
Collector (c) and Donor (d). John & William Hardeman (c.d.), Upper Prospect, N. S.
Received. 21 Sept. 1922.
No. of Specimens. 1
Remarks. Total length, 5.00 ins.; length to base of caudal, 4.00 ins.; depth, 2.25 ins.; head, 1.25 ins. Head in length, 3.2 times; depth in length, 1.77 times.
D. [dorsal fin] I-32, 31 [spine-rays, rays], P. [pectoral fins] 14 [rays].
Dorsal spine single; skin with minute rough sagreen-like scales; pelvic bone present (small, moveable); gill-slit short, nearly vertical.
Colour.- Creamy white, more or less mottled with olivaceous and spotted with brown. Iris olivaceous- yellow -can very rapidly change colour to a strong blotching of olivaceous; or further to a general olivaceous colour, spotted or blotched with dark olivaceous or brown, and also spotted with cream-colour. Two obscure dark bands on caudal. (Description of colour, etc. from specimen while alive).
Accidental occurrence in Nova Scotian waters. Only one previously reported from Nova Scotia, namely by J. Matthew Jones, who noted one specimen taken in St. Margaret's Bay in the autumn of 1861. Rev. John Ambrose had obtained it for Mr. Jones. Ambrose, I think, was then stationed at

Peggys Cove, 6 miles to westward of Prospect (See Jones, Trans. N. S. I. N. S., vol. 1, pt. 1, 1863, p. 53; also Jones, Trans. N. S. I. N. S., vol. 5, 1879, p. 95, no. 85).
It is worthy of note, that very many accidental occurrences of southern fishes taken places along our coast in September. Does the Gulf Stream tend towards our coast at that time of the year? This species ranges from Cape Cod to Brazil.

Reference: Figure 91, Plate 96. Original note by Harry Piers concerning one specimen of Planehead Filefish, *Monacanthus hispidus*, captured 1 mile south of Prospect on 20 September 1922.

[Piers was probably one of the first persons to suggest southern fishes visit our coast regularly]

Appendix II0: Accession Book No. 2: Page 237. Museum No. 5176

Museum No. 5176
Scientific Name. *Limanda ferruginea* (Storer).
Common Name. Rusty Dab; marketed locally under the name "Sole".
Phylum, &c. Fish.
Locality and when collected. Taken off Halifax Harbour, N. S., said to be fairly deep water; 8 Nov. 1922.
Collector (c) and Donor (d). Bought at Boutilier's Fish market, Bedford Row, Halifax for .20 [cents].
Received. 10 Nov. 1922.
No. of Specimens. 1
Remarks. (A number for sale there, and advertised as "Sole").

Measurements.- Total length, 15.00 inches; length to base of caudal, 12.50; depth, 6.60; head, 3.00; height of dorsal, 1.42; height of anal, 1.50; right pectoral, 1.50 ins. long; left pectoral, 1.05 ins. long.
Head 4 1/6 times in length; depth 1 9/10 times in length; eye 5 1/4 times in head.
Fin rays:- D. [dorsal] 81; P. [pectoral] 10 (1st. and last small); Lateral line, 90 scales.
Description:- Eyes on right side. Edge of preopercle free. Ventral fins nearly symmetrical as to position and form. Teeth small, close set, 12 teeth on right side + 33 teeth on left side of lower jaw, being thus mostly on blind side. Eyes 5 1/4 times in head length, the lower eye slightly in advance of the upper one. Scales on right side ctenoid (minutely spinous on posterior edge); those on blind side, smooth. Dorsal inserted over anterior fourth of upper eye; it's middle rays regressed. Pectoral ½ length of head. Caudal fin rounded. Anal spine (in front of anal fin) strong. Lateral line with an arch in front, the depth of which is 2/5 the length of the arch. A concealed spine behind ventrals. Ventral of coloured side partly lateral, the other wholly so.
Colour: Right side gray, with numerous rather small, distant spots of rusty colour; this general colour also applying to the fins and caudal fin. Underside (left or blind side) white, faintly tinged with yellowish; with caudal peduncle, and dorsal and anal fins and adjoining parts, pale lemon yellow.

Appendix III: Accession Book No. 2: Page 249. Museum No. 5225

Museum No. 5225
Scientific Name. *Coregonus labradoric*us, Richardson.

Common Name. Sault White-fish.
Phylum, &c. Fish.
Locality and when collected. Caught with bait (worm) in the swift water from the spillway of the dam, outlet of Millipsigate Lake, near the headwaters of Petite Riviere, 4 3/4 miles SW. of Bridgewater, Lun. Co., Nova Scotia; 9 May 1923. That is, in stream between Millipsigate (or Leipsigate) Lake and Hebb's Lake.

Information furnished by S. E. March.

Locality.- This fish was caught at the outlet of Millipsigate Lake, in the swift water from the spillway of the dam.- Minamkie [Manamkeak], Millipsigate and Hebb's Lakes form a chain, in the order named, connected by streams. They are the head-waters of the Petite Riviere, now damned and controlled by the town of Bridgewater as the sources and storage for the town water supply & electric light power. Hebb Lake is shut off from the main stream by an 18 to 20 ft. concrete dam with no fishway; and before the concrete dam existed, a wooden dam of about 14 feet in height. Access to this lake from the sea for fish is entirely out of the question, as with the exception of very high freshets all water from this lake joins the lake below through the flume and turbine of the power- plant under a 25 ft. head.- Any fish in this lake should be able to pass upward into Millipsigate and Manamkeak by way of the gates which open up from the bottom. The writer (Mr. M.[March]) has known of three being transferred inadvertently over the dam at Millipsigate, and has heard of a stray fish being taken below Minamkie [Manamkeak], and also below the Power House but in the latter use where it was a small Salmon (1 1/4 lbs.). The water in which they occur is, of course. Freshwater.

Mr. March says that he only knows of the one place where this fish is taken, although he has had 40 years of angling; but for the reasons stated, it is impossible for it to gain access to the waters above, and as very small fry might make those below.

Collector (c) and Donor (d). S. Edgar March
Received. 11 May 1923
No. of Specimens. 1
Remarks. Mode of Capture.- This specimen was taken with hook and worm. Mr. Marsh has personally taken them with worm, small minnow, small artificial fly and with tiny natural flies upon very small common bait hook. The small artificial flies used were dull yellow, gray, and black bodies. The natural flies used had black or gray wings. Bait is usually taken near the surface in swift running water. The fly is taken at from 2 to 6 inches above water and occasionally on the surface.- When hooked they almost always leap from the water as a Salmon does, and presume the same tactics until exhausted, are gamey fighters.No great catches have been made. Habits.- Seem to be in schools.

Size and weight.- From personal knowledge, 18 inches in length is the greatest length. As usually caught they vary in length from 7 to 16 inches. Two years ago Mr. M. [March] weighed several taken from a more than usual successful catch, and they run from 1 1/4 to 1 ½ lbs. Of the size of this specimen (5225) Mr. M. has not seen more than a half dozen and smaller than that only one. (In a previous letter he gave the weight as from ½ to 1 ½ lbs.) The proportions of the larger fish are practically the same as the specimen sent.

Flesh.- They are an excellent table fish, of which Mr. M. says he would like very much to give a personal demonstration. Flesh when cooked as about the same colour as that of a herring, but the bones are small & seem to be no more evident than those of trout.

Colour:- Back blue-black, with blue reflections; sides silvery with blue reflections, scales punctated with black; belly white with bluish reflections. Upper fins dusky or black; lower fins white with outer ends blackish, caudal dusky. Iris yellow.

Measurements.- Total length, 10.30 ins.; length to base of caudal, 9.15 ins.; greatest depth, 1,90 ins.; head, 1.85 ins.; eye, .40 [inch]; cleft of mouth, .55 in.; maxillary, .55 in. (Reaches back to below pupil of eye).
Proportions.- Head in length (to base of caudal), 4.94 times; depth in length, 4.81 times; eye in head, 4.60 times; maxillary in head, 3.36 times.
Weight.- 5 ozs. (After being in formaldehyde for 10 days).
Fin rays.- 1st. dorsal, 11 1/3; 2nd dorsal, adipose; pectoral, 14; anal, 12 1/3; ventral, 12.
Scales.- 9 or 10 between lateral line and front of dorsal; 100 in lateral line (100 on right side, 101 on left side); 9 between lateral line and vent. i.e. 9 or 10 - 100 - 9.
Lower jaw just included when jaw is shut; but projecting considerably beyond snout when mouth is opened.
Gill rakers, 11 (above)+ 16 (below the angle); largest gill raker, .17 inch long (2.35 times in eye).
Dr. Philip Cox's (Fredericton, N. B.) opinion as to species.- It was sent to Dr. Cox, but owing to delay in delivery, the specimen became dry, shrinking and wrinkled, so that little if any use can be made of it for identification. "The supplemental bone of the sup. maxillary is well defined & is of the *Coregonus* type. The dark fins are suggestive. It resembles *Coregonus labradoricus* as I found it in the lakes of the Upper St. John. This group is an extremely difficult one to diagnose, as there seems to be much intergradation, and species seem to blend with species. Even *Coregonus labradoricus* is by some regarded as a variety of *C. clupeaformis*. I am returning this specimen, expressing my regret at the delay in its receipt, that has made it impossible for me to arrive at a reliable conclusion." (Letter of Dr. P. Cox., 5 Aug. 1923).

References: Figure 37, Plate 40. Letter to Harry Piers from S. Edgar March dated 27 April 1924 concerning Sault White-fish [Atlantic Whitefish] from Millipsigate Lake (Museum No. 5225, Negative No. 23,449).

Figure 69, Plate 74. Letter to Harry Piers from S. Edgar March dated 14 October 1925 concerning Sault Whitefish [Atlantic Whitefish] from Millipsigate Lake (Negative No. 24,757).

Appendix II2: Accession Book No. 2: Page 253. Museum No. 5242

Museum No. 5242
Scientific Name. *Salvelinus fontinalis* (Mitchill). Abnormal specimen, with upper jaw atrophied or greatly shortened, probably by some injury when young.
Common Name. Brook Trout.
Phylum, &c. Fish.
Locality and when collected. Caught with minnow, Square Lake, near headwaters of East River, Chester, to west of upper end of Dauphinee Mill Lake, and 4 3/4 miles NW. of Hubbards, Lun. Co., N.S.; 25 May 1923.
Collector (c) and Donor (d). E. L. McDonald (c.d.) Halifax Hotel, Halifax.
Received. 28 May 1923.
No. of Specimens. 1
Remarks.
Total length, 11.15 ins.; greatest depth, 2.35 ins.; upper jaw is .55 inch shorter than the normal lower jaw. Weight, 8 oz. (½ lb.). Has red spots, seems to be a normal Brook Trout in all other respects except the aborted head in front of the eyes.

George Mullane says he once got a similar trout, about the same size, at Grover's Lake. "Ted" (Edw. W.) Marshall, barber at Halifax Hotel, says he once got a similar fish, about half its size.

Appendix 113: Accession Book No. 2; Page 275; Museum No. 5347

Museum No. 5347
Scientific Name. *Cyclopterus lumpus*, Linn. Young.
Common Name. Lumpfish; Lump-sucker.
Phylum, &c. Fish.
Locality and when collected. Northwest Arm, at Jollimores, Hx. Co., N.S.; 11 Oct. 1923.
Collector (c) and Donor (d). Wm. MacIlreith (c.d.) Jollimores, N.W.A., Hx.
Received. 12 Oct. 1923.
No. of Specimens. 1
Remarks. Total length, 1.88 inch; length to base of caudal, 1.53 in.
Dorsal ? [fin],10 [rays]; Pectoral [fin], [none given]; Anal [fin],10 [rays]; Caudal [fin], 12 [rays].
1st dorsal with 4 or 5 posterior rays, not yet absolute.
Colour pale olivaceous, very finely punctated with reddish-brown. Tubercles reddish-brown. Iris, golden-brown.

Appendix 114: Accession Book No. 3: Page 11. Museum No. 5454

Museum No. 5454
Scientific Name. *Coregonus labradoricus,* Richardson.
Common Name. Sault Whitefish.
Phylum, &c. Fish.
Locality and when collected. Caught at outlet of Millipsigate Lake, near headwater of Petite Riviere, 4 3/4 miles SW of Bridgewater, Lun. Co., N.S.; 5 May 1924. (Same locality as that of acc. no. 5225, which see for fuller information).
Collector (c) and Donor (d). S. Edgar March (c.d.) Bridgewater, N.S.
Received. 6 May 1924.
No. of Specimens. 1
Remarks. Compare acc. No. 5225.

Appendix 115: Accession Book No. 3: Page 11. Museum No. 5455

Museum No. 5455
Scientific Name. *Coregonus labradoricus*, Richardson.
Common Name. Sault Whitefish.
Phylum, &c. Fish.
Locality and when collected. Caught at outlet of Millipsigate Lake, near headwaters of Petite Riviere, 4 3/4 miles SW of Bridgewater, Lun. Co., N.S.; 5 May 1924.
Collector (c) and Donor (d). S. Edgar March (c.d.) Bridgewater, N.S.

Received. 6 May 1924.
No. of Specimens. 1
Remarks. Description of acc. nos. 5454 & 5455.

Colour.- Back, bluish-black, with blue reflections; sides silvery with blue reflections; belly silvery with slight bluish reflections; gill covers, yellowish. Sides, etc. punctated with black.
Dorsal fin blackish with black punctations; lower fins white, with outer 2/3rds blackish, with black punctations; caudal blackish. Iris yellowish.

	5454	5455
Measurements-		
Total length	11.25 ins.	10.60 ins
Length to base of caudal	9.90 ins.	9.22 ins.
Greatest depth	2.10 ins.	1.95 ins
Head	2.03 ins.	1.97 ins.
Eye (yellowish iris)	.41 in.	.40 in.
Cleft of mouth	.63 in.	.55 in.
Maxillary	To a trifle behind front edge of yellow iris	To between front edge of iris & front edge of pupil
Proportions-		
Head in length (to base caudal)	4.87 times	4.63 times
Depth in length	4.71 times	4.73 times
Eye (irris) in head	4.95 times	4.93 times
Maxillary in head	3.22 times	3.58 times
Weight	6 ½ oz.	5 1/4 oz.
Fin rays-		
1st dorsal	10 1/3 last one split	10 1/3 last one split
2nd dorsal	adipose	adipose
Pectoral	16 last one rather short	16 last one rather short
Anal	11	11
Ventral	11	12
Scales-		
Between lateral line & front of head	11	11
In lateral line	R. [right side]100; L. [left] 103	R. 97; L. 98
Between lateral line & vent	9	9

Gill rakers of 5454 10 above + 14 or 15 below the angle; longest gill raker .20 inch long (2 times into diameter of eye (iris)).

5455 10 above + 15 below the angle; longest gill raker .20 inch long (2 times into diameter of eye (iris))

Back not elevated. Could not detect any teeth on tongue. Lower jaw not projecting beyond upper one. Distance from tip of mouth to occiput about 2 ½ in distance from occiput to origin of dorsal fin. The apparent lack of teeth on the tongue seems to be about the only point in which they seem to differ from *C. labradoricus*, and in having 21 to 24 more scales in the lateral line than that species usually less. It is, however, one species which is quite variable.

Appendix 116: Accession Book No. 3: Page 16. Museum No. 5479

Museum No. 5479
Scientific Name. *Perca flavescens* (Mitchill).
Common Name. Yellow Perch.
Phylum, &c. Fish.
Locality and when collected. Very common, about creeks off Musquodoboit River, near Crawford's Falls, Hx. Co., N.S.; 23 June 1924
Collector (c) and Donor (d). H. St.C. Silver (c.d.) Halifax.
Received. 24 June 1924.
No. of Specimens. 2
Remarks. Fam. [family] Percidae.

Sides light-golden yellow when first taken (faded out in preservation). Orange on ventrals and a spot of orange at front of anal fin. 7 dark cross bars on sides of each

	A	B
Total length	6.20 ins.	5.50 ins
Length to base of caudal	5.10 ins.	4.65 ins
Head	1.53 ins.	1.48 ins.
Depth	1.50 ins.	1.28 ins.
Head in length to caudal	3.33 times	3.14 times
Depth in length to caudal	3.40 times	3.63 times
Fin Formula:		
Dorsal	XIII-I,14	XIII-I,13
Ventral	I,5	I,5
Anal	II,7	II,7
Scales	6 - 58 - 14	5 - 59 - 13

Reference: Figure 38, Plate 41. Rough laboratory notes on Yellow Perch from creeks off Musquodoboit River by Harry Piers (Museum No. 5479, Negative No. 23,500)

Appendix 117: Accession Book No. 3: Page 16. Museum No. 5480

Museum No. 5480
Scientific Name. *Morone americana* (Gmelin).
Common Name. White Perch.
Phylum, &c. Fish.
Locality and when collected. Very common, about creeks off Musquodoboit River, near Crawford's Falls, Hx. Co., N.S.; 23 June 1924.
Collector (c) and Donor (d). H. St. C. Silver (c.d.) Halifax.
Received. 24 June 1924.
No. of Specimens. 1
Remarks. Fam. [family] Serranidae

Total length, 6.20 ins.; length to base of caudal, 5.10; head, 1.67 ins.; head in length 3.05 times; depth 1.75 ins., depth in length, 2,91 times.
Fin formula: D.[dorsal] IX-I,12; V. [ventral] I, 5 or 6; A. [anal] III,9.

Dorsal fins joined at base only. 2 nd anal spine about 2 3/4 times in head.
Scales: lat. line, 53

Reference: Figure 39, Plate 42. Rough laboratory notes on White Perch from creeks off Musquodoboit River by Harry Piers (Museum No. 5480, Negative No. 23,493)

Appendix 118: Accession Book No. 3: Page 17. Museum No. 5481

Museum No. 5481
Scientific Name. *Semotilus atromaculatus* (Mitchill).
Common Name. Horned Dace or Creek Chub. Called "Chub" at Musquodoboit.
Phylum, &c. Fish.
Locality and when collected. Very common, about creeks off Musquodoboit River, near Crawford's Falls, Hx. Co., N.S.; 23 June 1924.
Collector (c) and Donor (d). H. St. C. Silver (c.d.) Halifax.
Received. 24 June 1924.
No. of Specimens. 1
Remarks. Fam. [family]Cyprinidae
Dorsal inserted midway between pupil of eye and base of caudal. Black spot at base of dorsal fin, at front. No scales on head. Dark lateral band (young).
Total length, 5.10 ins.; length to base of caudal, 4.30 ins.; head 1.20 ins.; in length 3.58 times; depth, 1.00 in.; in length, 4.30 times.
D. [dorsal fin rays] 9 (but one may be split, in which case only 8); V. [ventral fin rays] 8; A. [anal fin rays] 9 (last one may be split, in which case only 8); P. [pectoral fin rays] about 17.
Scales: right side 11 - 57 - 6 to 8
left side 11 - 63 - 7
About 27 scales before dorsal fin.

Appendix 119: Accession Book No. 3: Page 32. Museum No. 5571

Museum No. 5571
Scientific Name. Jaws of *Lamna cornubica* (Gmelin).
Common Name. Porbeagle; Mackerel Shark.
Phylum, &c. Fish.
Locality and when collected. Entangled in mackerel net, about 3 miles SE off Devil's Island, off Halifax Harbour, N.S.; 31 October 1924.
Collector (c) and Donor (d). Douglas Henneberry (c.) Devil's Island, Halifax.
Received. 22 Nov. 1924.
No. of Specimens. 1
Remarks.
Colour, bluish-grey; white below
Length from snout to fork of caudal, 7ft. 0in.

3rd tooth on each side in upper jaw, very small.
Teeth 14 - 14
13 - 13

References: Figure 40, Plate 43. Rough sketch of Porbeagle by Harry Piers (Museum No. 5571, Negative No. 23,481)).

Figure 41, Plate 44. Sketch of Porbeagle by Harry Piers (Museum No. 5571, Negative No. 13,533)

Appendix 120: Accession Book No. 3: Page 34. Museum No. 5582

Museum No. 5582
Scientific Name. *Raja laevis* or *Raja radiata*
Jaws & teeth of male.
Common Name. Barn-door Skate; or Starry Skate.
Phylum, &c. Fish.
Locality and when collected. Hunt's Point, Port Mouton, Queens Co., N.S.; 1924
Collector (c) and Donor (d). H. A. Lawrence, C. E. (D.) Halifax, N.S. per Hiram Dunkin
Received. Aug. 1924.
No. of Specimens. 1
Remarks. Teeth $\frac{31 + \text{about } 3}{31} = \frac{34}{31}$

Appendix 121: Accession Book No. 3: Page 44. Museum No. 5636

Museum No. 5636
Scientific Name. *Salmo salar,* Linn. Young, parr.
(Is it possible it may be young of the so-called "Grayling" or Land-locked Salmon ?)
Common Name. Atlantic Salmon. "Sand Trout" or "Gudgeon" according to Indian Jerry Lone-cloud.
Phylum, &c. Fish.
Locality and when collected. Caught with hook and worm, at mouth of Nine-mile River where it runs in Shubenacadie River, Elmsdale, Hants Co., N.S.; 25 May 1925.
Collector (c) and Donor (d). Jerry Lonecloud (c.) Halifax.
Received. 26 May 1925.
No. of Specimens. 1
Remarks. Very long for its depth. Teeth on shaft of vomer. Caudal forked.
Colour silvery. Distinct indication of 9 or 10 vertical dark bars on sides (noticeable where scales are off). These are the markings of a "parr". Had some black spots, but no red spots
Weight, 5 1/4 oz.

Total length, snout to end of caudal	12.40 inches
Length, snout to base of caudal	10.45 inches
Head	2.33 inches
Depth	1.88 inches
Head in length to base of caudal	4.48 times

Depth in length to base of caudal 5.56 times
Scale formula: lat. line to front of dorsal, 22 scales
lateral line, 116 scales
lat. line to vent, 16 scales
= 22 - 116 - 16
Fin formula: D.[dorsal] 12; V.[ventral] 10; A.[anal] 9.

Appendix 122: Accession Book No. 3: Page 45. Museum No. 5638

Museum No. 5638
Scientific Name. *Salmo salar sebago* (Girard) or *S. salar ouananiche*. J. & E. 778a.
Common Name. Landlocked Salmon; "Grayling" of Nova Scotia.
Phylum, &c. Fish.
Locality and when collected. Taken with minnow, by trolling, between Grand Lake Station and Laurie place, Oakfield, east side of Grand Lake, Hx. Co., N.S.; 31 May 1925.
Collector (c) and Donor (d). L. E. Sievert (c.d.) Halifax per H. St. C. Silver.
Received. 4 June 1925.
No. of Specimens. 1
Remarks. [none given, for morphometrics etc. see 5639]

Appendix 123: Accession Book No. 3: Page 45. Museum No. 5639

Museum No. 5639
Scientific Name. *Salmo salar sebago* (Girard) or *S. salar ouananiche*. J. & E. 778a.
Common Name. Landlocked Salmon; "Grayling" of Nova Scotia.
Phylum, &c. Fish.
Locality and when collected. Taken with minnow, by trolling, between Grand Lake Station and Laurie place, Oakfield, east side of Grand Lake, Hx. Co., N.S.; 31 May 1925.
Collector (c) and Donor (d). L. E. Sievert (c.d.) Halifax per H. St. C. Silver.
Received. 4 June 1925.
No. of Specimens. 1
Remarks. Measurements, etc. of Acc. No. 5638 & 5639

Colour - Silvery		
Weight	1 lb. 2 oz.	6 3/4 oz
Total length	15.90 ins.	12.50 ins.
Length to base of caudal	14.10 ins.	10.80 ins.
Head	3.18 ins.	2.40 ins.
Depth	3.25 ins.	2.30 ins.
Head in length	4.43 times	4.50 times
Depth in length	4.34 times	4.70 times
Eye, diameter	.52 inch	.40 inch
Caudal emarginate fin	.75 inch	.78 inch
Scales, lat.[lateral] line to front of 1st dorsal	26 scales	25 scales
lat. [lateral] line	117 scales	117 scales

lat. [lateral] line to vent	21 scales	21 scales
Dorsal fin	11 rays	11 rays
Anal fin	9 rays	9 rays

Appendix 124: Accession Book No. 3: Page 109. Museum No. 6004

Museum No. 6004
Scientific Name. *Osmerus mordax* (Mitchill).
Common Name. American Smelt (Land-locked?).
Phylum, &c. Fish.
Locality and when collected. At mouth of Rocky Brook, on west side of Grand Lake, 2 3/4 mi. N. of Wellington Station, Hx. Co., N.S.; 4 April 1927.
Collector (c) and Donor (d). Jerry Lone-cloud (c.) Halifax, N.S. Bought for .25 [cents]
Received. 5 April 1927
No. of Specimens. 4
Remarks. John Bradley, guide, of Wellington Station, says Smelts are in Grand Lake the entire year, and in the winter they can be got through the ice there at any time. The Harbour Seals which used to come up into Grand Lake used to feed on these Smelts. The last Seal seen in Grand Lake was killed by Bradley, off Indian Point, Grand Lake, about 23 years ago (say about 1904).

Lone-cloud got these specimens by sprinkling rolled oatmeal on the water and then dipping them with a landing net. John Bradley takes them by using a bunch of cotton-batting (no hook) on end of line. The teeth of the fish get entangled in the batting, and they are thrown out of the water. H. St. Clair Silver says that these Grand Lake Smelts will take a minnow on a hook or a spoon-bait; but they will not rise to a fly. Lone-cloud also says they will not take bait (although Silver says they take minnow). Of course they are also taken with landing net.

	A	B	C	D
Total length	9.52 ins.	9.52 ins.	8.22 ins.	8.22 ins.
Length to base of caudal	8.25 ins.	8.25 ins.	6.95 ins.	7.00 ins.
Head	2.18 ins.	2.18 ins.	1.78 ins.	1.80 ins.
Head in length to base of caudal	3.33 times	3.33 times	3.90 times	3.89 times
Depth	1.35 ins.	1.28 ins	1.30 ins.	1.20 ins
Depth in length to base of caudal	6.11 times	6.44 times	5.35 times	5.83 times
Eye	.38 in.	.38 in.	.34 in.	.34 in.
Eye in head	5.74 times	5.74 times	5.23 times	5.30 times
Dorsal rays	10	10	10	10
Anal rays	15	14	16	14
Pectoral rays	13	13	13	13
Scales in lat. line	66	66	64	66
Weight	2 1/4 oz.	2 1/4 oz.	1 ½ oz.	1 ½ oz.

Above particulars noted 26 May/27 after they had been in formaldehyde for over a month.

Appendix 125: Accession Book No. 3: Page 120. Museum No. 6046

Museum No. 6046
Scientific Name. Newspaper half-tone plate & clipping, relating to the taking of two specimens of *Alepisaurus ferox,* Gill.
Common Name. Lancetfish or Handsawfish.
Phylum, &c. Fish.
Locality and when collected. Taken on the cape on Emerald Bank, 110 miles SE. of Liverpool, Nova Scotia, about 14 July 1927.
Collector (c) and Donor (d). Wm. McKenzie of Schooner "Archie McKenzie".
Received. 16 July 1927.
No. of Specimens. 2
Remarks. Clippings.

The largest one is nearly 5 ft. in length, the other somewhat less. They are now in coll.[collection] of Atlantic Exper. [Experimental]Station for Fisheries, Halifax.
From " Halifax Herald", Hx., 16 July 1927.
A specimen about 6 ft. long was taken off Nova Scotia in August 1910 and a cast of it is in the collection of the Boston Soc. [Society] of Nat.[Natural] Hist.[History] (See Fishes of Gulf of Maine, p. 155).

Appendix 126: Accession Book No. 3: Page 176. Museum No. 6252

Museum No. 6252
Scientific Name. *Salmo salar,* Linn. Young (Parr), age about 2 years.
Common Name. Common Salmon; young, "Parr".
Phylum, &c. Fish.
Locality and when collected. A stream at Sheet Harbour, Hx. Co., N.S.; 2 June 1928.
Collector (c) and Donor (d). E. G. Hall (d.) Sheet Harbour, N.S.
Received. 6 June 1928.
No. of Specimens. 1
Remarks. "There are quantities of these fish in the streams here, although not so large as this one; the smaller ones averaging around six or eight inches long" (E. G. Hall).

Total length	12.80 ins.
Length to base of caudal	10.80 ins.
Depth of body	2.68 ins
Depth in length	4.1 times
Head	2.70 ins.
Head in length	4.0 times
Eye	.53 in.
Eye in head	5.1 times
Weight	11 3/4 ozs.

Fin formula: D. 11; P. 13; V. 9; A. 9.

Scales: Lat. line to front of dorsal	26
Lateral line	119
Lat. line to vent	22

Tail emarginate

Colour: Above, dark; below, silvery; sides with 8 vertical dark bars on right side and 9 such bars on left side. 6 to 9 dark spots on each side of head and gill-cover; reddish cross-shaped spots on sides of body.

"Parrs" are usually about 6 to 9 inches long. After growing this size, they go to sea, and loose the dark "parr" bands on there sides. There is then a break in the size of the fish, as it comes to my attention, till they come back from the sea when about 5 lbs. in weight. (Vide H.St. C. Silver)

Reference: Figure 42, Plate 45. Rough laboratory notes on Atlantic Salmon from stream at Sheet Harbour by Harry Piers (Museum No. 6252, Negative No. 23,484b)

Appendix 127: Accession Book No. 4: Page 25. Museum No. 6690

Museum No. 6690
Scientific Name. *Ammodytes americanus,* DeKay J. & E. p. 833.
Common Name. Sand Lance; Sand Launce; Sand Eel; Lant.
Phylum, &c. Fish.
Locality and when collected. On sandy shore near Mauger's Lighthouse Beach, west side of McNab's Island, Halifax Harbour, N.S.; 13 July 1930.
Collector (c) and Donor (d). Mrs. E. Harrigan (c.d.) McNab's Island, N.S.
Received. 16 Jul. 1930.
No. of Specimens. 1
Remarks. Ammodytidae

Total length	5.33 inches
Length to base of caudal	4.89 inches
Head	.97 inch
Depth	.44 inch
Head in length to base of caudal	5 times
Depth in length	11 times
Dorsal fin, about	55 rays
Anal fin	25 rays

Appendix 128: Accession Book No. 4: Page 112. Museum No. 7081

Museum No. 7081
Scientific Name. *Osmerus mordax* (Mitchill).
Common Name. American Smelt.
Phylum, &c. Fish
Locality and when collected. Picked up dead on shore of north end of Grand Lake, Hants Co., N.S.; about spring of 1930.

Collector (c) and Donor (d). Sandy McDonald (c.d.) Enfield, N.S. (Per G. W. Horne, Enfield).
Received. 18 Dec. 1930.
No. of Specimens. 1 specimen (2 fish).
Remarks. American Smelt, which had tried to swallow a *Gasterosteus bispinosus cuvieri,* Girard, Northeastern Two-spined Stickleback, the anterior dorsal spine of which had penetrated through the upper jaw of the Smelt, and so caused the latters death.
The Smelt is 3.70 ins. long; and the Stickleback, 1.30 ins.
G. W. Horne says that in Grand Lake, Smelts occur as long as about 12 inches, he having taken them 10 inches long. The Two-spined Stickleback is moderately common there.

Appendix 129: Accession Book No. 4: Page 151. Museum No. 7213

Museum No. 7213
Scientific Name. *Siphostoma fuscum* (Storer) or variety, or related form.
Common Name. Common ? Pipe-fish.
Phylum, &c. Fish.
Locality and when collected. Swimming at surface of water in Long Cove, just east of Bedford, Bedford Basin, Hx. Co., N.S.; 15 July 1931.
Collector (c) and Donor (d). David Murray (c.d.) Halifax.
Received. 17 July 1931.
No. of Specimens. 1 Male with pouch containing young.
Remarks.
Measurements:

Total length	7.23 ins.
Length to base of caudal	6.92 ins
Length of head	.88 in.
Length of snout	[not given]
Length of head & body (snout to vent)	[not given]
Length of pouch (from vent backwards)	2.15 ins
Greatest width of body	.21 in.
Greatest depth of body	.18 in.
Length of dorsal fin	1.18 ins.
Height of dorsal fin	.30 in.
Length of pectoral fin	.21 in.
Length of caudal fin	.31 in.
Length of ventral fin	(out of sight near vent)
Head	7.86 times in total length.

Fin Formula: Dorsal; about 44 rays, not less; pectoral, rounded, about 10; ventral, not counted, minute; caudal, 10.
Body rings: including vent, 19 rings + caudal rings 37.
Dorsal fin covers 5 body rings (including vent) + 7 caudal rings (behind vent).
That is the dorsal covers 12 rings (Jordan & Ever. description says dorsal covering 4 - 5 + 5 - 4 rings, that is a total of only 9 rings, or compared with 12 rings in this specimen).
Colour: olivaceous; yellowish on under part of body, particularly on under part of head and on gill cover. Dorsal with several broken bars or mottlings, obliquely placed.

Young: Many young were in the pouch on underside of body or tail. They were about .45 ins. long; had black eyes, and about 10 black vertical bars on posterior part of body.

References: Figure 43, Plate 46. Rough laboratory notes on Northern Pipefish from Bedford Basin by Harry Piers (Museum No. 7213, Negative No. 23,447)

Figure 44, Plate 47. Sketch of Northern Pipefish from Bedford Basin by Harry Piers (Museum No. 7213, Negative No. 23,844)

Appendix 130: Accession Book No. 4: Page 152. Museum No. 7214

Museum No. 7214
Scientific Name. *Siphostoma fuscum* (Storer) or variety, or related form.
Common Name. Common (?) Pipe-fish.
Phylum, &c. Fish.
Locality and when collected. Found in nearly vertical position at surface of water, near Harbour Commission office, south terminal piers, Halifax [Halifax Harbour], N.S.; a. m. 23 July 1931.
Collector (c) and Donor (d). Edward S. F. Piers (c.d.) Halifax, N.S.
Received. 23 July 1931.
No. of Specimens. 1 Male with egg pouch containing eggs
Remarks. Swam by undulating movements of dorsal fin.

Measurements:

Total length	7.54 ins. (Shrunk to 7.50 in by next day)
Length to base of caudal	7.29 ins.
Head	.85 in.
Snout to eye	.46 in.
Diameter of eye	.09 in.
Snout to vent	3.08 ins.
Body (operch. to vent)	2.23 ins.
Tail (not to base of caudal)	4.21 ins.
Greatest depth of body (excluding of pouch)	.17 in.
Greatest width	.16 in.
Length of pouch	2.12 ins.
Dorsal inserted behind vent	2.53 ins.
Length of dorsal fin	1.20 ins.
Height of dorsal fin (longest ray)	.28 in.
Length of pectoral fin	.17 in. (rounded)
Length of anal fin	.08 in. (of about 3 rays)
Length of caudal fin	.25 in.

Head in length to base of caudal, goes 8.58 times.

Fin formula: Dorsal, 42 rays (correct); pectoral, 13; ventral, minute, about 3; caudal, 10.
Rings: body rings (including vent), 19 rings + caudal rings 36; making a total of 55 rings.
Dorsal fin covering 4 3/4 body rings + 6 caudal rings. That is the dorsal covers a total of 10 3/4 rings etc. (Jordan & Evermann say Dorsal covering 4-5 + 5-4 rings, that is a total of only 9 rings).

Colour (careful description from living fish, 23 July):
Upper parts, and also under side of tail behind pouch, olivaceous; darker at junction of rings (This olivaceous colour was sprinkled with fine black punctations the day after this specimen was put in formalin). Under part of snout pale. Under parts from anterior end of opercle and including opercle, to vent, "pale greenish-yellow" or light citron-yellow, with a lustrous appearance as if there was a silvery under-colour. Plate at base of pectoral, silvery.
Pouch light clay-colour; the reddish tint probably due to the reddish-yellow colour of the mass of eggs under the skin of the pouch.
Dorsal fin obscurely banded obliquely; and with several (8) fine black dots or punctuations.
Pectoral fins pale. Caudal fin dark olivaceous.
Eggs: Pouch filled with eggs arranged in about 6 rows, "staggered" so as to pack closely. Each egg globular, .03 inch diameter; colour reddish-yellow.

References: Figure 45, Plate 48. Rough laboratory notes on Northern Pipefish from Halifax Harbour by Harry Piers (Museum No. 7214, Negative No. 23,448)

Figure 46, Plate 49. Sketch of Northern Pipefish from Halifax Harbour by Harry Piers (Museum No. 7214, Negative No. 23,856)

Figure 47, Plate 50. Table of records of Northern Pipefish in Nova Scotia by Harry Piers (Museum No. 7214, Negative No. 23,858)

Appendix 131: Accession Book No. 4: Page 197. Museum No. 7370

Museum No. 7370
Scientific Name. *Osmerus mordax* (Mitchill). J. & E. No. 793.
Common Name. Smelt; "Shiner" of people about Hubbards.
Phylum, &c. Fish.
Locality and when collected. The Trout in which the small Smelts were, was taken with fly or trolling with ordinary "minnow", in small expansion of northwestern section of Dauphinee Mill Lake, near where the passage goes into the southeastern section, near Hubbards, Lun. Co., N.S.; Sat., 7 May 1932.
Collector (c) and Donor (d). Edward S. F. Piers (c.d.) 152 Shirley Street, Halifax.
Received. 9 May 1932.
No. of Specimens. 4
Remarks. Young, about 1/3 adult size, from stomach of a Brook Trout (*Salvelinus fontinalis*) about 13 ins. long. 15 of such small Smelts were in the stomach of this Trout, and about 5 in another one; 4 of the Trout had some in them.

Reference: Figure 48, Plate 51. Sketch of Rainbow Smelt with map of Dauphinee Mill Lake by Harry Piers (Museum No. 7370, Negative No. 23,859).

Appendix 132: Accession Book No. 4: Page 210. Museum No. 7428

Museum No. 7428
Scientific Name. *Morone americana* (Gmelin). Adult. J. & E. No. 1532 (p. 1134).
Common Name. White Perch.
Phylum, &c. Fish.
Locality and when collected. Lake Mattattall, about 4 mi. E of Wentworth Centre, on road to Tatamagouche, eastern Cumb. Co., N.S.; 21 June 1932.
Collector (c) and Donor (d). Dr. C. H. Craig (c.) H.Wyckoff Rogers (d.) Barrister, Amherst, Cumb. Co., N.S.
Received. 22 June 1932.
No. of Specimens. 1
Remarks. This lake is 3 ½ miles long, and moderately narrow.

1st & 2nd dorsals just connected.

Fin Formula: 1st dorsal, IX (the first two[spines]short), 2nd dorsal I+12; pectoral, 15; ventral, I+5; anal, III+9; caudal, 17.

Scales: 8 above lateral line; 54 in lat. line; 12 below lat. line

Head in length, 2.97 times; depth in length 3.25 times

Total length	12.45 ins.
Length to base of caudal	10.40 ins
Depth	3.17 ins.
Head	3.50 ins.
Largest (4th) spine of first dorsal	1.41 ins.
2nd Anal spine	1.08 ins.
3rd Anal spine	1.22 ins

Weight, 10 3/4 ozs.

Many persons think this fish is the Small-mouthed Bass (*M. dolomieu).*

H. W. Rogers writes (13 July 1932) that he has caught these White Perch weighing 1 3/4 pounds. He says that White and Yellow Perch abound in the following lakes in Cumberland Co., N.S.: Mattattal, Victoria or Big Lake, Killarney, Nappan, Pineo, Angevine, McArthur and McPhersons Lakes.

He says he learns from Prof. H. C. White, government biologist, that Black Bass are caught in Wheatons Lake, Bocabec, near St. Andrews, N. B. But Rogers cannot ascertain that they are taken in any Nova Scotian lakes; though people living near the above mentioned lakes claim they contain Bass (indirectly mistaken)

Reference: [Piers gives a table comparing counts he made from this specimen with those known for Smallmouth Bass, Yellow Perch, Striped Bass, White Perch and Black Sea Bass]

Figure 49 A, Plate 52. Page one of two page letter from H. Wyckoff Rogers to Harry Piers concerning distribution of White Perch and Yellow Perch in Cumberland County (Museum No. 7428, Negative No. 23,496).

Figure 49 B, Plate 53. Page two of two page letter from H. Wyckoff Rogers to Harry Piers concerning distribution of White Perch and Yellow Perch in Cumberland County (Museum No. 7428, Negative No. 23,497).

Appendix 133: Accession Book No. 4: Page 235. Museum No. 7508

Museum No. 7508
Scientific Name. Upper lateral tooth of *Carcharodon carcharias* (Linn.).
Common Name. Man-eater Shark.
Phylum, &c. Fish.
Locality and when collected. Found embedded in the wood of the under-water part of a 25 ft. motor-boat belonging to Wilson Munroe, fisherman, and his young son, of Victoria Beach, Ann. Co., which boat had been unprovokedly attacked by the shark while they were tending their trawl in 40 fathoms of water eastern side of Bay of Fundy, about 10 miles northwest of Digby Gut, Ann. Co., Nova Scotia; 2 July 1932.
The locality would be about lat. 44 47' long. 65 51' (as to the date, Capt. Morgan says it was in July. An item about it appeared in a Halifax newspaper, and on 27 July/32, about 10 days or so after the item appeared I wrote to W. Munroe for particulars, so that I think about 10th July is a reasonable date for the occurrence).
Collector (c) and Donor (d). Wilson Munroe, fisherman (c.d.) Victoria Beach, Ann. Co., N.S.
Received. 2 Nov. 1932.
No. of Specimens. 1
Remarks. Particulars of the unprovoked attack made by this shark off Victoria Beach, Ann. Co., N.S., July 1932:-

"This shark attacked Wilson Munroe's 25 ft. motor-boat very early in the morning, just after dawn, of a clear day, early in July 1932. At the time it was slack water at low tide, and the sea quite calm. Monroe and his young son, in their 25 ft. motor-boat stopped to overhaul their fishing trawl. The shark at first circled around another boat about a quarter of a mile away. Then, without the slightest provocation it wantonly attacked Munroe's boat, which was suddenly hove-up forward on the starboard (right) side; which pushed the boat down aft to port (left), both Monroe and his son being aft at the time, to tend the trawls. When the boat thus went down aft, water slopped in over the port quarter gunnel. Capt. Elmer Morgan in his report says that Monroe could not get a sight of the fish, and did not know what it was that had disturbed the boat; although Monroe writes me that "as near as I could tell the shark was about thirty feet long". Most likely he did not see it, and merely surmised its length. The fish, with a number of bumps against the boat, worked its way aft, under the starboard (right) bilge; and then got clear of the boat. Some say he renewed the attack more than once, but this is not probable, and is not mentioned by Capt. Morgan. It may have referred to its having been previously about the other boat.- When the Monroes got ashore and examined the boat, they found that the fish had bent the blades of the 3-bladed propeller and in doing so had likely been cut by them before getting away. The boat was not particularly damaged, but some of the animals teeth were left in the keel or one of the under strakes (boards); and in one of these is the present specimen (no. 7508). The men suppose that the shark was feeding on fish hooked on the trawls, when the boat came along and interrupted him. (This account is almost entirely based on the verbal account by Capt. Elmer Morgan, fishing inspector, of Bear River, Ann. Co., who was at Victoria Beach a day or two after this incident, and who gave the particulars on 21 Jan./33, to J.W.D.Stevens of the "Spectator", Annapolis, for my information.)

Verification of the identification-
H. Piers identified the tooth as belonging to *Carcharodon carcharias* (Linn.), Man-eater Shark, but owing to the rarity of this species so far north wished to have his determination authoritively

verified, and therefore on 9 Nov./32 sent the tooth to U. S. Bureau of Fisheries, Wash., U.S.A. which referred it to the U. S. National Museum, Wash. On 5 Dec./32, the Nat. Museum reported that the tooth had been examined by Mr. Earl D. Reid, Aid in the Division of Fishes, who sends the following report concerning it. " Mr. Piers is quite correct in identifying the accompanying tooth as that of the 'Man-eater Shark (*Carcharodon carcharias* (Linn.)). I have compared the specimen with a jaw of this species in our collection and find that the tooth corresponds exactly with the upper lateral teeth near the posterior angle of the jaws of a specimen not more than fifteen feet in length." This report from the Nat. Museum, positively confirms the identification.

Range of Species- Jordan & Everman, Fishes of N. A., 1896 Vol. 1, p. 50:
" Found in all temperate and tropical seas, and is occasionally taken on our coasts, within the Atlantic and the Pacific (Europe)." Bean's cat. of Fishes of New York, 1903, p. 41: " Found in temperate and tropical parts of Atlantic and Pacific oceans, but is rare in New York waters." Refers to the ferocity of one taken at Provincetown, Mass., 16 June, 1848.- Bigelow, Fishes of Gulf of Maine, 1925, p. 39-40: "Cosmopolitan in tropical and warm-temperate seas, straying northward at rare intervals as far as New England and casually to Banquereau Bank off eastern Nova Scotia (Putnam. Bull: Essex Inst., vol. 6, 1874, p. 72). It is apparently rare everywhere. The only shark likely to attack human beings."- Breder, Field Book of Fishes, 1929, p. 22: "A comparatively rare form of tropical and sub-tropical seas on occasion straggling northward on our coast to Nova Scotia.... one of the largest and most powerful of existing fishes.... The first definite and authentic records of shark attacking man all refer to this single species....Feeds on large fishes and sea turtles.... Reaches a length of 40 ft. or more.

This shark no doubt taken 4 months later at Campobello Island, New Brunswick, shortly before 23 Nov./1923.- In the latter part (shortly before 23rd.) of November, of the same year, 1932, a large shark "the first of its kind ever taken in local waters,' and measuring 26 ft. in length, 3,000 lbs. in weight, almost 6 ft. In diameter of thickest part of body, and with a dorsal fin nearly 5 ft. long, was taken in the brush-walls of a "sardine [young herring] weir, at Harbour DE Loutre, Campobello Island (lat. 44 55', long. 66 55'), in Passamaquoddy Bay, New Brunswick. It plunged through the weir and became stranded on the shore. Campobello Isle. is a few miles east of Eastport, Me. (Lat. 44 55'), and about 50 miles, across the Bay of Fundy, westward of Victoria Beach (lat. 44 47') 10 mi. off Digby Gut, N.S., where the above described attack occurred in July. The fish when opened had an enormous liver, "occupying most of the carcass," which yielded seven 50-gallon drums of liver, which exuded great quantities of oil, which was sold to an oil refinery. "It was believed to be the same species of shark which attacked a fisherman's boat in the Bay of Fundy near Digby some months ago." (Vide news item, stated Deer Island [news Compobello Island], N. B., 23 Nov. 1932). I think there can be hardly any doubt that this was the same fish which attacked the Victoria Beach, N.S., boat about 4 months before.

In the Bull. Essox Inst., Salem, meeting of 20 Apr. 1874, Vol. 6, p. 72, "Mr. [F. W.] Putnam also exhibited a large tooth of a shark, presented by Rev. D. P. Noyes of Pigeon Cove, who obtained it from Mr. Andrew Johnson, one of two men who, which in a dory deeply laden with fish, near St. Peter's Bank, had been fiercely attacked by a large shark which hit at the dory, leaving the marks of one jaw on the bottom of the boat and of the other on the side. The boat was tipped by the shark to such an extent as to spill part of the fish and take in water, and was kept afloat only by vigorous bailing. The fragments of small teeth were found in the wood. The perfect specimen was from the front of the under jaw, and was 1.8 inches in length from the centre of its root to the point, and from the extreme end of the root, 2.1. Its extreme width at base, across the root, was 1.5 inches. An impression with specimen of large shark in the Museum of Comparative Zoology, made by Mr.

Garman, it was estimated that a tooth of this size would indicate a total length for the animal of more than thirteen feet. Judging from a single tooth, the shark was probably a specimen of the *Carcharias (Prionodon) lamia,* or a closely allied species, and is a very interesting addition to the fauna of the eastern coast."

[*Carcharias lamia* = *Carcharias lamia* (Rafinesque); J & E., p. 38 a man-eating shark of the tropics, apparently not many so far north as this] I Know of no "St. Peters Bank", & of course it cannot be St. Pierre Bank off southern Newfoundland.

Without doubt this is the specimen of *Carcharodon carcharias,* which Bigelow, Fishes of Gulf of Maine, 1925, p. 40 as one about 13 feet long attacked a fisherman in a dory on Banquereau Bank many years ago, leaving in the sides of the boat fragments of its teeth, by means of which Doctor Garman was able to identify the species to which the shark belonged (Putnam. Bulletin, Essox Institute, vol. 6, 1874, p. 72)" Therefore it must be decided that "St. Peter's Bank of Putnam, was Banquereau Bank, about lat. 45, long 55; NW of Sable Island, N.S.

Unrecorded occurrence in St. Margaret's Bay, 4 miles off Hubbards Cove, N.S.; 27 June 1920.- On 27 June, 1920, a 15 foot shark attacked the boat of Jeremiah Harnish and John Chandler while albacore [tuna] harpooning in St. Margaret's Bay, 4 miles off Hubbards Cove, Hx. Co., and left one of its teeth in the boat. The tooth, however was afterwards lost, but no doubt the fish was of this species. Lat. about 44 35', long. about 64 00'. The newspaper account of this specimen is as follows: "Hubbards man had exciting experience with Sea Monster at St. Margaret's Bay.- Jeremiah Harnish of Hubbards and John Chandler of Liverpool, the former's brother-in-law, had an exciting experience on St. Margaret's Bay on Sunday last [27 June, 1920] while out hunting albacore, that will last them as a moving picture of the kind for some years to come. From the projecting outrigger on the bow of his motor-boat, Jeremiah Harnish, with practiced aim and steady arm, harpooned what he supposed was a large albacore. After the fish was struck, the two men, as is the custom, got into their small boat for the purpose of "drowning" the fish or giving him line to play himself out. An albacore dives deep after being harpooned, but this fish kept only a short distance under the surface and did not attempt to run away. About ten minutes, however, after they struck him, he came near the surface, and when fifteen feet away from the " flat" [boat] he made a dart for the after part of the boat, directly where John Chandler was standing. The impact was so great that he knocked the boat from under Chandler and he went head-first overboard. His aim for Chandler seemed to be like the studied one of a Hun submarine. When this man came to the surface, the boat with Jeremiah Harnish, who happened to be sitting down at the time, was fifteen feet away. In addition to striking the boat the fish grabbed it with his immense jaws and the scars and cuts in the boat were seen by your correspondent today. The spread of the jaws as shown by the marks on the boat, is about twenty-five inches; and on the upper part where his upper jaw struck and just below the gunnels, he left one of his teeth or incisors as bright as ivory, as long as a man's little finger and like the teeth of a saw on both sides. The cut in the upper side of the boat, where the tooth broke off and stuck, is about six inches long and three-quarters of an inch deep.

"Chandler being a good swimmer soon reached his boat and was pulled in by his brother-in-law. Both of the men being in their sixties and Chandler afraid of getting cold after his enforced bath and in wet clothes about four miles from Hubbards, decided to cut the line and let the monster go, about six fathoms of rope and the harpoon went with the escaped fish, which they say was fifteen feet long and very broad across the back.

"Chandler who has been in southern waters, and has seen whales, porpoise, sharks all kinds of marine monsters never saw a fish like this one before and cannot categorically place this sea brute that tried to send him to Davy Jones locker.

"Walter Winters, who was running the motor-boat, and witnessed the whole performance that might have ended fatally, came up to the row boat, took the two men on board and hurried full speed for Hubbards, all thankful for the lucky ending, but regretting not being able to capture the Harnish fish, strange to the coastal water of this part of the world." [This account was offered by Freman Harnish, for H. Piers, 7 Feb. 1933]

The 27 June, 1920, was at Halifax a fine, warm day, with wind from SSW. The tooth was unfortunately lost a few weeks later, in the water at end of Harnish's wharf at Hubbards, before H. Piers had an opportunity to examine it. The fierce attack of the shark, and the serrated edges to the tooth, all point to this fish being also a Man-eater Shark.

References: Figure 50, Plate 54. Sketch of White Shark tooth, which was embedded in motor boat at about 10 miles northeast of Digby Gut, by Harry Piers (Museum No. 7508, Negative No. 23,847).

Figure 51, Plate 55. Letter to Harry Piers from J. W. Dawson, Editor, *The Spectator*, dated 28 Feb. 1933 concerning a shark attack on a row boat near Goat Island (Museum No. 7508, Negative No. 23,435)

Appendix 134: Accession Book No. 4: Page 241. Museum No. 7524

Museum No. 7524
Scientific Name. *Siphostoma fuscum,* (Storer)= *Siphostoma fuscus,* Storer, probably a variety (?) or related form. Female (with egg pouch).
Common Name. Northern Pipefish.
Phylum, &c. Fish.
Locality and when collected. Found about 4 ft.from shore, on the bottom, alive, at bathing beach, in the Back Harbour, Chester, Lun. Co., N.S.; about 10 Aug. 1932.
Collector (c) and Donor (d). George Macdonald (c.d.) Son of W.J. Macdonald, 20 Preston St., Halifax.
Received. 28 Nov. 1932.
No. of Specimens. 1
Remarks. Compared with Acc. No.7213,7214
Also report of Museum for 1930-1 p.14

Appendix 135: Accession Book No. 4: Page 264. Museum No. 7600

Museum No. 7600
Scientific Name. *Acipenser sturio*, Linn. Immature.
Common Name. Common Sturgeon.
Phylum, &c. Fish.
Locality and when collected. Near mouth of Salmon River, about 125 yds. south of the bridge Cole Harbour, Hx. Co., N.S.; 23 May 1933.
Collector (c) and Donor (d). Bought from Samuel Emberly (c.) 4 ½ Fairbanks St., Dartmouth. $ 1.50
Received. 27 May 1933.
No. of Specimens. 1

Remarks. The boy, Sam. Emberly said that this sturgeon had been caught by the tail by a large "gull", when only about 4 feet from Emberly, and the bird tried to lift this large fish out of the water, but only got it about a quarter way out when it found it was too heavy and had to drop it. Emberly then dipped this fish out with a dip-net. With Emberly was another boy, Henry Brean, Hawthorne St., Dartmouth.

This specimen was 4 days old when received, and went bad, and had to be thrown out on 29 May.

Total length	32.90 in.
Length to base of caudal:	27.00 to end of lateral plates
	26.00 to insertion of caudal
Head	7.80 ins.
Snout to nostril	2.65 ins.
Snout to front edge of eyes	3.50

Plates: 10 in dorsal row
27 in each upper lateral row
9 + 2 = 11 in each lower lateral row

Appendix I36: Accession Book No. 4: Page 266. Museum No. 7608

Museum No. 7608
Scientific Name. *Abramis chrysoleucus* (Mitchill) of Pratt's Man.[manuel] of Vert. [vertebrate] Animals, 1923 *Notemigonus chrysoleucus* (Mitchill) of Jordan, Evermann & Clark's Check List,1930.
Common Name. Golden Shiner, etc.
Phylum, &c. Fish.
Locality and when collected. Caught in Hubbards River between Dorey's Lake & Hubbards Cove, Hubbards, Hx. Co., N.S.; 18 June 1933.
Collector (c) and Donor (d). E. S. Bringloe (c.) Halifax. Per Edw. S.F.Piers (d.) Halifax
Received. 20 June 1933
No. of Specimens. 1
Remarks. Cyprinidae (Minnows)

N. B. The pharyngeal teeth have been taken out of this fish and cleaned.

This species appears to be common, or at least fairly common, in Nova Scotia. See my fish notes and J.[Journal] 1934

	Measurements and proportions:
Total length	7.75 ins.
Length to base of caudal	6.40 ins.
Depth (greatest at front of dorsal)	1.88 ins. (about 3 ½ times in length to base of caudal)
Head	1.37 ins (about 4 ½ times in length to base of caudal)
Eye	.35 in. (about 4 times in length of head)

Lower pharyngeal teeth in a single row, 5 on each side (teeth 5-5).

Fin formula: Dorsal, 8 (with an extra short one, about 1/3rd, in front), olivaceous; Pectoral, about 15; Ventrals, 9 (red, blackish at tips); Anal, 13 (with an extra, short one, about 1/4 in length, in front), red, blackish at tip.

Lateral line decurved. Scales: 10 scales (front of dorsal to lateral line) - 52 scales in lateral line - 4 scales (lateral line to vent).

Dorsal fin inserted a little behind ventrals. Abdomen from ventrals to vent with a narrow scaleless strip or line somewhat compressed, the scales not passing over it. Lower jaw included. Maxillary small; to about 1/3rd way back from front of eye.

Colour:- Back and dorsal fin, olivaceous; lower part (sides) of head golden, particularly under eyes; sides of body and belly, paler golden; pectorals very slightly reddish near ends, ventrals and anal fins, red, blackish at tips; caudal blackish. (No black spot at base of dorsal; no dark spot behind head. No tubercles. No barbels.)

Acc. No. 3263, in river Antigonish, Ant. Co.; 25 July 1908
Acc. No. 3540, Maynard's Lake, Dartmouth; 19 Apr. 1910
Acc. No. 4932, Elmsdale, Shube. River, N.S.; 22 May 1920
Acc. No. 7608, Hubbards River, Hx. Co.; 18 June 1933
also 3 old specimens without data

Reference: Figure 52, Plate 56. Sketch of Golden Shiner from Hubbards River by Harry Piers (Museum No. 7608, Negative No. 23,848).

Appendix 137: Accession Book No. 4: Page 266. Museum No. 7609

Museum No. 7609
Scientific Name. *Morone americana* (Gmelin). Young (a little over half of full size).
Common Name. White Perch.
Phylum, &c. Fish.
Locality and when collected. Sawlor's Lake, Hubbards, Hx. Co., N.S.; 19 June 1933.
Collector (c) and Donor (d). Edw. S. F. Piers (c.d.) Halifax, N.S.
Received. 21 June 1933.
No. of Specimens. 1
Remarks. Serranidae

About 23 June E. S. F. Piers got 7 or 8 of these fish, one being about 12 ins. long, an adult. Common in brackish and fresh water in Nova Scotia. An excellent food fish.

Measurements & proportions		
Total length	5.48 inches	
Length to base of caudal	4.40 inches	
Greatest depth	1.50 inches	3 times in length to base of caudal
Head	1.50 inches	3 times in length to base of caudal
2nd anal spine	.60 inch	2 ½ times in head

Fin formula: D[dorsal fins]. IX [spines] - I [spine],12 [rays]. A [anal fin]. III [spines],9 [rays].
1st dorsal, IX (4th largest)
2nd dorsal, I,12 (2nd or 3rd soft ray longest
Dorsal fin joined at base only
Pectoral. 15. Ventral. I,5. Anal. III,9
Scales: 7 - 50 - 11. Head scaly
Colour: Above olivaceous, with blue reflections; sides slightly brassy, with very faint indications of paler streaks; under parts purplish white.

Appendix 138: Accession Book No. 5: Page 35. Museum No. 7815

Museum No. 7815
Scientific Name. *Osmerus mordax* (Mitchill). Young.
Common Name. American Smelt; Frost-fish.
Phylum, &c. Fish.
Locality and when collected. Found dead on beach of Sawlor's Lake (between Dauphinee Mill Lake & Hubbards River), Hubbards, St. Margaret's Bay, Hx. Co., N.S.; 17 June 1934.
Collector (c) and Donor (d). Edward S. F. Piers (c.d.) Halifax
Received. 19 June 1934.
No. of Specimens. 1
Remarks. For others from stomach of Trout from Dauphinee Mill Lake, see Acc. No. 7370
Total length, 3.92 ins.; length to base of caudal, 3.26 ins.; depth, .50 in.; head, .78 in.: Head in length, 4.2 times; depth in length, 6.5 times.
1st. D [dorsal] fin, 11 rays; 2nd. D., adipose; P [pectoral]. 12; V [ventral]. 8; A [anal]. 15
Scales, 68 Tongue with strong teeth on it. Silvery stripe, about .12 inch wide, on sides.
Black punctations about sides of head, fins etc.

Appendix 139: Accession Book No. 5: Page 38. Museum No. 7832

Museum No. 7832
Scientific Name. *Cristivomer namaycush* (Walbaum).
Common Name. Great Lake Trout; "Hake" or "Grayling" (local, Sherbrooke Lake); "Pickerel" (local, Pockwock Lake, Hx. Co.).
Phylum, &c. Fish
Locality and when collected. Taken by deep trolling, with a Yellow Perch or a "Dace" for bait, with a 4 oz lead sinker, near the narrows at south end of Sherbrooke Lake, Lun. Co., N.S.; Sat. 7 & Sun. 8 July 1934.
The location is 2 3/4 miles eastward of Maplewood, in northwest part of Lunenburg Co. Ed. Grinum is the local guide who has the "camp" there.
Collector (c) and Donor (d). Edward S. F. Piers (c.d.) & Miss Frances Hardy (c.d.) Halifax
Received. 9 July 1934.
No. of Specimens. 4
Remarks. Heads of 4 specimens which measured 17.20, 17.30, 20.25, and 22.40 ins. In total length.
Details noted 9 July 1934; as below

	A	B	C	D
	Taken 8 July (This specimen said by guide to have been an introduced one)	7 July	8 July	8 July
Taken by	E.S.F.Piers	E.S.F.Piers	E.S.F.Piers	Miss F. Handy
WEIGHT, fresh, lbs.	2	2	3	4 ½
MEASUREMENTS:	inches	inches	inches	inches
Total length	17.20	17.30	20.25	22.40

Length to base of caudal	15.00	15.00	17.40	19.20
Head	4.05	4.15	4.53	5.28
Depth	3.34	3.46	4.07	4.90
Girth	-------	-------	-------	12.00

Snout to front margin of maxillary (Goes twice into length of head)

Length of eye	.65	.65	.73	.75
Snout to front of eye				1.45
Across head, between eyes				1.80

Total length (Length of specimen D, following cleaning 23 1/8 inches). Head in length, A. 3.70 times; B. 3.61; C. 3.84; D. 3.64 average 3.69 times.
Depth in length, A. 4.49 times; B. 4.34; C. 4.27; D. 3.92= average 4.25 times.
Eye in head, A. 6.23; B. 6.4; C. 6.21; D. 7.0 = average 6.46 times.

Scales	Number	Number	Number	Number
Lateral line	196	188	189	200 average of 193 1/4 scales
Front of dorsal to lateral line	35	33	30	37 average of 33 3/4 scales
Lateral line to vent	27	26	27	27 average of 26 3/4 scales
FIN RAYS:				
Dorsal	11 1/4	11 1/4	11 1/4	11 1/4 adipose fin .87 inch long
Pectoral counted on both sides	15	14	14	14
Ventral	9	9	9	9
Anal	10 ½	10 ½	10 ½	10 ½ With a very rudimentary ray in front
BRANCHIOSTEGALS	12	13	13	12
GILL RAKERS above	5	6	7	7
below	10	10	9	11

MISCELLANEOUS:- Teeth very strong. Teeth on vomer. Top of head flat. Caudal (tail) forked.
COLOUR:- Dark above, with pale, light or grey, spots about .10 inch diameter; lower parts whitish, with minute fleck punctuations about scales. No red spots on body. Upper fins with pale spots; pectorals and lower fins with orange, mostly on their posterior parts. Opercles with bluish, yellow and coppery-coloured tints. Iris yellow.
CONTENTS OF STOMACH:- Specimen A, B and C had in their stomachs remains of ordinary-sized Minnows about 4 ins. Long. Specimen D had hardly anything in it. It's insides were all yellow.
Jordan & Evermann give for this species: Head 4 ½ in length; depth 4 in length; eye 4 ½ in head; maxillary merely ½ in head. Branchiostegals 11 or 12; Dorsal 11, anal 11; lat. line 185-205; length 36 ins.

Appendix 140: Accession Book No. 5: Page 50. Museum No. 7901

Museum No. 7901
Scientific Name. *Carcharodon carcharias* (Linn.).
Common Name. Tooth of Man-eater Shark.
Phylum, &c. Fish.
Locality and when collected. On southernmost side of Pig Island, just to southeast of Big Island, Merigomish, Pict. Co., N.S.; 27 July 1934.
Collector (c) and Donor (d). Bought from the collector Charles Wilmont, Indian (son of late Chief Peter Wilmont) Indian Reservation, Truro, N.S.
Received. 24 Aug. 1934.
No. of Specimens. 1
Remarks. Found with the foregoing Indian stone implements, etc., with the Beaver tooth (acc. no. 7902) & some pieces of Moose antlers, in an ancient Indian shell-heap (in a stratum of oyster-shells about 1 ½ to 3 ft. deep) on southeast side of Pig Islands, just to southeast of Big Island Merigomish, Pict. Co., N.S.; collected 27 July, 1934.

References: Figure 53, Plate 57. Rough sketch of White Shark tooth from Indian midden at Pig Island by Harry Piers (Museum No. 7901, Negative No. 23,466b).

Figure 54, Plate 58. Sketch of White Shark tooth from Indian midden at Pig Island by Harry Piers (Museum No. 7901, Negative No. 23,853).

Appendix 141: Accession Book No. 5: Page 52. Museum No. 7913

Museum No. 7913
Scientific Name. *Morone americana* (Gmelin).
Common Name. White Perch.
Phylum, &c. Fish.
Locality and when collected. Sawler's Lake, Hubbards, Hx. Co., N.S.; Sun. 26 Aug. 1934.
Collector (c) and Donor (d). E. S. F. Piers (c.d.) Halifax, N.S.
Received. 27 Aug. 1934.
No. of Specimens. 5
Remarks. Taken with worms as bait. They pull and bore shorewards when hooked (Yellow Perch wriggle).

According to description, *M. americana* should have. Head 2 3/4 to 3; depth 2 ½ to 3. D. IX-I,12; A. III,8 or 9. Scales, 8 - 50 to 55 - 12; 50 to 55 pores.

Measurements	A ins.	B ins	C ins	D ins.	E ins.	average
Total length	8.85	8.15	7.55	7.20	6.68	7.69
Length to base of caudal	7.23	6.80	6.22	5.97	5.58	6.36
Head	2.40	2.22	2.02	2.00	1.80	2.09
Depth	2.25	1.98	1.85	1.88	1.75	1.94
Eye	.50	.49	.47	.45	.43	.47

Proportions	times	times	times	times	times	average	
Head in length to base of caudal	3.01	3.06	3.08	2.98	3.10	3.046	
	3.21	3.43	3.20	3.18	3.19	3.24	
Fin Rays							
1st dorsal	IX	IX	IX	IX	IX		First 2 short
2nd Dorsal, last 2 soft rays close together	I,12	I,12	I,12	I,12	I,12 or 13		4th longest

1st dorsal just connected at base with 2nd dorsal. 1 sharp spine and 1 blunt angle on posterior margin of gill-cover. Upper maxillary (?) nearly to centre of eye. Small teeth on vomer.
Colour.- Above olivaceous with blue reflections down the lateral line; grey with bright silvery reflections below lateral line, and very slightly purplish (pearly) along underside. Sides only very obscurely striped. Sides of head slightly brassy (yellowish). Underside of head pale purplish (pearly). Sometimes a few red spots on throat (in D). Ventral fins (but not anal) slightly rosy at base. Outer part of fins blackish.

Appendix 142: Accession Book No. 5: Page 54. Museum No. 7921

Museum No. 7921
Scientific Name. Jaws (upper & lower) of *Prionace glauca* (Linn.) Male, adult.
Common Name. Great Blue Shark.
Phylum, &c. Fish.
Locality and when collected. Taken by James T. Egan of Halifax, in a motor-boat, with a home-made, one-piece, 11 ½ ft. bamboo rod and line, the hook baited with a small codfish, while fishing for large pollock, about 6 miles SSE of Lawrencetown & about 7 miles eastward of Devil's Island, to east of entrance of Halifax Harbour, Hx. Co., N.S.; 11 Sept.1934; and gaffed after a 1 or 1 ½ hour fight.Another one was seen.
Collector (c) and Donor (d). James T. Egan (c.) Halifax, N.S.
Received. 12 Sept. 1934.
No. of Specimens. 1
Remarks. Another one seen

Colour: When wet, blue above, and very light grey to white below. The blue colour of upper parts is very iridescent when the skin is wet, but when dry the skin looses that colour & appears a darkish-grey.
Measured by H. and Edw. S. F. Piers, at Armdale Boathouse, Armdale, Halifax, 10 - 10:40 am, Wed., 12 Sept. 1934.

	MEASUREMENTS
Total length (snout to end of upper lobe of caudal fin)	10' 6"
Greatest girth	3' 2 ½"
Snout to anterior margin of eye	9 ½"
Snout to anterior margin of pectoral fin	2' 3"
Snout to anterior margin of 1st dorsal fin	3' 9 ½"
Snout to anterior margin of ventral fin	5' 5 ½"
Snout to anterior margin of 2nd dorsal fin	6' 7 ½"

Snout to anterior margin of anal fin	6' 8 ½"
Anterior length (height) pectoral fin	2' 1 ½"
Anterior length (height) of 1st dorsal fin	1' 1 ½"
Length of base of 1st dorsal fin	9"
Length of upper lobe of caudal fin, from pit	2' 7 ½"
Length of lower lobe of caudal fin, from pit	1' 4"
Between extremities of upper & lower lobes of caudal fin	2' 6"

Reference: Figure 55, Plate 59. Rough sketch of Blue Shark by Harry Piers (Museum No. 7921, Negative No. 23,463b)

Figure 56, Plate 60. Sketch of Blue Shark by Harry Piers (Museum No. 7921, Negative No. 23,843)

Figure 57, Plate 61. Sketch of tooth of Blue Shark by Harry Piers (Museum No. 7921, Negative No. 23,842)

Appendix 143: Accession Book No. 5: Page 108. Museum No. 8170

Museum No. 8170
Scientific Name. *Notropis cornutus* (Mitchill)?
Common Name. Common Shiner.
Phylum, &c. Fish.
Locality and when collected. Crawford's Falls, Musquodoboit River, 1 3/4 mi. SE of Gibraltar Ry.[railway] Station, & 6 3/4 mi. NNW of Head of Musquodoboit Harbour, Hx. Co., N.S.; Sun., 30 June, 1935.
Collector (c) and Donor (d). E. S. F. Piers (c.d.) Halifax, N.S.
Received. 2 July 1935.
No. of Specimens. 1
Remarks. Colour:- Upper parts olivaceous; sides yellowish-silvery; underparts white; Ends of fins & lower part of opercle, reddish; iris golden.

Measurements & Proportions

Length (total)	4.18 inches
Length to base of caudal	3.45 inches
Head	.94 inch
Depth	.95 inch
Eye	.24 inch
Head in length	3.67 times
Depth in length	3.63 times
Eye in head	3.92 times

Fin rays: Dorsal 8 (or 9) rays (the first one not split); Pectoral, 15; Ventral fins, 8; Anal fin, 9
Insertion of dorsal fin is over the insertion of the ventral fins.
Scales:- 8? - 38 to 40 (difficult to count accuratly) -5?
Pharyngeal Teeth:- Right 2,4 - Left 3,2 (or 4,1?).
Lateral line only very slightly depressed behind opercle. Head not tuberculate.

Appendix 144: Accession Book No. 5: Page 141. Museum No. 8313

Museum No. 8313
Scientific Name. *Balistes carolinensis,* Gmelin.
Common Name. Triggerfish; Leather-jacket.
Phylum, &c. Fish.
Locality and when collected. Found dead and dried, with viscera & eyes removed by marine invertebrates, on shore between the Quarantine Station Wharf & this foot-bridge crossing over the track and "Drake's Passage", to McNab's Island, on western side of northern end of Lawlor's Island on a beach of Eastern Passage, eastern side of Halifax Harbour, Hx. Co., N.S.; Thurs., 24 Oct.1935.
Collector (c) and Donor (d). Samuel Dowinton (c.d.) 93 Agricola St., Halifax.
Received. 25 Oct. 1935.
No. of Specimens. 1
Remarks. Family: Balistidae: Trigger-fishes.

As the skin had a bad odour it had probably not been dead over one or two months, so that probably its occurrence here may be placed at about late August or early Sept. 1935.
Total length, 9.80 ins. (Probably originally 10.00 ins., tips of caudal being eroded off); snout to base of caudal, 8.50; Depth, 4.75; head, 2.80; head in original length, 3.57 times; depth in original length, 2.10 times.
Lateral line complete, though difficult to trace in some spots.
3 stout spines in 1st dorsal. 2nd dorsal (soft) and anal fin eroded or eaten off; caudal fin complete except the extremities of the two lobs. Eyes and interior fleshy parts gone, leaving only the skeleton and skin.
Fishermen of Eastern Passage said they had never seen this species before.
This is evidently the 5th specimen which has been reported as taken in Nova Scotia waters.
Range: Tropical parts of the Atlantic; occasionally northward in gulf-stream to Nova Scotia. Only an accidental straggler from south in Gulf of Maine.
Recorded specimens of *B. carolinensis* from Nova Scotia.
(1) Before 1879- St. Margaret's Bay, Hx. Co. in Halifax Museum (Jones, 1879 no. 84, *B. capriscus*).
(2) 1901-2- Banquereau, off Canso, 1901-2 (Cornish).
(3) 25 Aug. 1910.- Taken with a spear, between Woodside Refinery & Fort Clarence, Dartmouth, Hx.Har. 25 Aug. 1910. Prov. Mus. Acc. No. 3601 (see Rept. For 1910, p.9).
(4) 20 Aug. 1912.- Picked up dead, near Bedford, Bedford Basin, near Halifax, 20 Aug. 1912. Prov. Mus. Acc. No. 4109 (see Report for 1912).
(5) 24 Aug. 1935.- Picked up dead, with flesh eaten away & no doubt some while since death, on Lawlor's Island, Hx. Har., 24 Aug. 1935. Present specimen, Acc. No. 8313.

Appendix 145: Accession Book No. 5: Page 176. Museum No. 8437

Museum No. 8437
Scientific Name. *Morone americana* (Gmelin).
Common Name. White Perch.
Phylum, &c. Fish.

Locality and when collected. Taken with minnow (will also take worms), Sawlor's Lake, Hubbards, Hx. Co., N.S.; 3 May 1936.
Collector (c) and Donor (d). Edward S. F. Piers (c.d.) Halifax, N.S.
Received. 4 May 1936.
No. of Specimens. 1
Remarks. It is said that in this lake they will go up to about 3 lbs.

Family: Serranidae, Sea Bass.

Colour: Back olivaceous; sides slightly yellowish-white with 5 faint, paler longitudinal stripes above lateral line; belly white; pinkish about lower part of opercle and on belly at base of ventral fin; fins dusky; iris yellowish.

Fin Rays: Dorsal IX (4th largest)- I,12; pectoral, 15; Ventrals I,5; anal, III,9 (all normal)

Scales: 8 - 53 - 12

Measurements: Total length		12.05 inches
	Length to base of caudal	10.10 inches
	Head	3.25 inches
	Depth	3.60 inches
	Diameter of eye	.64 inch
Proportions:	Head in length	3.1 times
	Depth	2.8 times

Appendix 146: Accession Book No. 5: Page 181. Museum No. 8466

Museum No. 8466
Scientific Name. *Christivomer namaycush* (Walbaum).
Common Name. Great Lake Trout.
Phylum, &c. Fish.
Locality and when collected. Taken by trolling with a real minnow, in Wright's Lake which is fed by river which flows from Pockwock Lake (the two lakes are a little over 3/4 mile apart), near Pockwock, in western section of Hammond's Plains, Hx. Co., N.S.; Thurs., 14 May 1936.
Collector (c) and Donor (d). Paul R. DeWolf (c.d.) Bedford, N.S.
Received. 18 May 1936.
No. of Specimens. 1
Remarks. Great Lake Trout ("Pickerel") have long been known to occur in Pockwock Lake, but this is the first time I have known one to be taken in the connected Wright's Lake lower down the river.

Total length	26.00 ins.
Girth	13.00 ins.
Weight	5 lbs. 15oz. after being out of water about 4 hours
Length to base of tail	21.35 ins
Head	6.18 ins. = 3.46 times in length
Depth	5.10 ins.= 4.19 times in length
Eye	.70 in.
Scales in lateral line	183 scales
Dorsal to lat. line	27 ? scales
Lat. line to vent	19 scales

Dorsal fin with 12 rays (10 full length ones, and 2 shorter ones)
Anal fin with 10 or 11 rays
Strong teeth on ant.[anterior] of vomer.

Appendix 147: Accession Book No. 5: Page 212. Museum No. 8572

Museum No. 8572
Scientific Name. *Pomolobus pseudoharengus* (Wilson). Young, on way to sea.
Common Name. Alewife; Gaspereau.
Phylum, &c. Fish.
Locality and when collected. Taken with dip-net in small cove on east side of Sawlor's Lake, Hubbards, Hx. Co., N.S. Sun., 20 Sept.,1936.
Collector (c) and Donor (d). Edward S. F. Piers (c.d.) Halifax, N.S.
Received. 23 Sept. 1936.
No. of Specimens. 1
Remarks. Very many there in schools. They no doubt had been hatched in the large Dauphinee Mill Lake, above Sawlor's Lake.
Total length, 3.60 ins.; length to base of caudal, 2.90 ins.; depth, .80 in. (3 5/8th in length); head, .77 in. (3 3/4 in length); eye, .22.
Belly serrated.
Back dark bluish; sides very silvery.

Appendix 148: Accession Book No. 5: Page 217. Museum No. 8587

Museum No. 8587
Scientific Name. *Vomer setipinnis*,Mitchill. Young.
Common Name. Horse-head; Look-down. Moonfish.
Phylum, &c. Fish.
Locality and when collected. Found dead on rocky beach at Stonehurst, 5 miles east from Lunenburg town, & at southwestern side of entrance to Mahone Bay, Lun. Co., N.S.; 27 August,1936.
Collector (c) and Donor (d). Earl Levy (c.d.) Stonehurst, Lun. Co., N.S.
Received. 16 Oct. 1936
No. of Specimens. 1: Young
Remarks. For full account and description of these two specimens, the one of 1885, and the present one, Acc. No. 8587, see Report for 1935-6, pages 13-15.

References: Figure 58, Plate 62. Laboratory notes on Atlantic Moonfish from Stonehurst by Harry Piers (Museum No. 8587, Negative No. 23,513b).

Figure 59, Plate 63. Rough sketch and notes on Atlantic Moonfish from Stonehurst by Harry Piers (Museum No. 8587, Negative No. 23,515b).

Figure 60, Plate 64. Rough sketches of Atlantic Moonfish from Stonehurst by Harry Piers, which were never inscribed into his Accession Book (Museum No. 8587, Negative No. 23,465b).

Fish-related Items

Harry Piers was interested in everything relating to the fishes found in Nova Scotia including fossil fish, methods of fishing, fish products and statistics. For example included in his catalogue he gives a table of the value per 112 pounds for dried cod for localities all over eastern Canada in 1915 which he obtained at the Nova Scotia Provincial Exhibition (Figure 61, Plate 65). He also includes a description and sketch of a Tyke Net used for catching smelts (Figure 62, Plate 66) and a fisherman's Dory (Figure 63, Plate 67).

Appendix 149: Accession Book No. 1; Page 3; Museum No. 58 and 59

Museum No. 58
Scientific Name. [none given]
Common Name. Cod sounds Cod tongues
Phylum, &c. [none given]
Locality and when collected. Nova Scotian coast
Collector (c) and Donor (d). N. and A. Smith (d.)
Received. Aug. 18, 1900
No. of Specimens. 1 bottle
Remarks. Sell for 5 [cents] a pound

Appendix 150: Accession Book No. 1; Page 5; Museum No. 85

Museum No. 85
Scientific Name. Cod-liver Oil
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. [none given]
Collector (c) and Donor (d). Bottled by A. Wilson & Son (d.) Halifax
Received. Oct. 23, 1900
No. of Specimens. 1
Remarks. [none given]

Appendix 151: Accession Book No. 1; Page 6; Museum No. 97

Museum No. 97
Scientific Name. Rock specimens, &c., illustrating the petrographical features of Post-Triassic formation, supposed by Prof. Haycock to be Cretaceous:
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. [none given]
Collector (c) and Donor (d). [none given]
Received. [none given]

No. of Specimens. 1
Remarks. No. 7 Sandy Limestone, with Fish scales, Post-Triassic

Appendix 152: Accession Book No. 1; Page 7; Museum No. 98

Museum No. 98
Scientific Name. Can representing canned Mackerel
Put up by "Hinsdale Packing Co., Hinsdale, Canada." Hinsdale is merely a trade name (no such place)
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Halifax
Collector (c) and Donor (d). M. Neville (d.)
Received. Nov. 24, 1900
No. of Specimens. 1
Remarks. [none given]

Appendix 153: Accession Book No. 1; Page 7; Museum No. 103

Museum No. 103
Scientific Name. Sample cans of Clams & Shad. Nova Scotia
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Nova Scotia
Collector (c) and Donor (d). Canned by Oscar Fulton (d.) Portaupique [Portapique], Londonderry, N.S.
Received. Dec. 24, 1900
No. of Specimens. 2
Remarks. [none given]

Appendix 154: Accession Book No. 1; Page 8; Museum No. 110

Museum No. 110
Scientific Name. Canned Halibut ("Fresh White Shore Halibut")
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Nova Scotia
Collector (c) and Donor (d). Canned by Matthews & Scott, Queensport, N.S.
Purchased (15 [cents])
Received. Jan. 25, 1901
No. of Specimens. 1
Remarks. [none given]

Appendix 155: Accession Book No. 1; Page 9; Museum No. 119

Museum No. 119
Scientific Name. Canned Finnan Haddie ("Tiger Brand")
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Margaretville, N.S. (Margaretville Canning Co.)
Collector (c) and Donor (d). Purchased (8 [cents])
Received. Feb. 12, 1901
No. of Specimens. 1
Remarks. [none given]

Appendix 156: Accession Book No. 1; Page 9; Museum No. 120

Museum No. 120
Scientific Name. Canned Kippered Herring
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Centreville, Digby Co. (Centreville Canning Co.)
Collector (c) and Donor (d). Purchased (8 [cents])
Received. Feb. 12, 1901
No. of Specimens. 1
Remarks. [none given]

Appendix 157: Accession Book No. 1; Page 9; Museum No. 121

Museum No. 121
Scientific Name. Canned Salmon
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. "Usine a Halifax" (on label)
Collector (c) and Donor (d). Purchased (12 [cents])
Received. Feb. 12, 1901
No. of Specimens. 1
Remarks. [none given]

Appendix 158: Accession Book No. 1; Page 9; Museum No. 133

Museum No. 133
Scientific Name. Canned Cod-fish.

Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Lockeport, N.S. (Canadian Atlantic Canning Co.)
Collector (c) and Donor (d). Purchased (15 [cents])
Received. Feb. 12, 1901
No. of Specimens. 1
Remarks. [none given]

Appendix 159: Accession Book No. 1; Page 25; Museum No. 385

Museum No. 385
Scientific Name. Photograph of Tracks of a Fish-like Organism, *Ichthyoidichnites acadicus*, n. sp. (Ami)
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. McArras Brook, Antig. Co., N.S. Original specimen collected Aug. 6, 1886
Collector (c) and Donor (d). T. C. Weston (c); N.S. Inst. Sc. (d)
Received. Sept. 20, 1901
No. of Specimens. 1
Remarks. Siliceous mudstone of Knoydart formation: Eo-Devonish (Ami). See Trans. N.S. Inst. Sc., vol. x, p. 330 Original specimen in Museum of Geological Survey, Ottawa.

Appendix 160: Accession Book No. 1; Page 33; Museum No. 532

Museum No. 532
Scientific Name. Fish scales
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Horton Bluff, Kings Co., N.S. August 12, 1901
Collector (c) and Donor (d). H. Piers (c.)
Received. Aug. 15, 1901
No. of Specimens. 2
Remarks. Upper Devonian (Fletcher)

Appendix 161: Accession Book No. 1; Page 35; Museum No. 555

Museum No. 555
Scientific Name. Fish scale (fossil)
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. "Blue Beach", extension of Horton Bluff, Kings Co., N.S.: Aug. 13, 1901
Collector (c) and Donor (d). H. Piers (c.)

Received. Aug. 15, 1901
No. of Specimens. 2
Remarks. Very abundant at Horton Bluff "(Arch. Geol., 256, fig. 78)
Order, Gastracoda. Upper Devonian (Fletcher)

Appendix 162: Accession Book No. 1; Page 35; Museum No. 556

Museum No. 556
Scientific Name. Fish remains
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. "Blue Beach", extension of Horton Bluff, Kings Co., N.S.: Aug. 13, 1901
Collector (c) and Donor (d). H. Piers
Received. Aug. 15, 1901
No. of Specimens. 1
Remarks. Up. Dev.

Appendix 163: Accession Book No. 1; Page 35; Museum No. 565

Museum No. 565
Scientific Name. Limestone (blackish), micaceous; with Fish Scales
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. "Blue Beach" extension of Horton Bluff, Kings Co., N.S.; Aug. 13, 1901
Collector (c) and Donor (d). H. Piers (c)
Received. Aug. 15, 1901
No. of Specimens. 1
Remarks. Up. Dev.

Appendix 164: Accession Book No. 1; Page 41; Museum No. 683

Museum No. 683
Scientific Name. Fossil Fish
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Albertite region, Albert Co., New Brunswick
Collector (c) and Donor (d). Walter H. Prest (c.d.)
Received. Jan. 3/02
No. of Specimens. 1
Remarks. The Albertite minerals are Lower Carboniferous

Appendix 165: Accession Book No. 1; Page 56; Museum No. 920

Museum No. 920
Scientific Name. Fish head (dried)
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Indian Harbour Lake, Port Hilford, Guys. Co., N.S.
Collector (c) and Donor (d). C. J. Mackie, Hx. (d.) (of W. B. Arthur Co.)
Received. May 21, 1902
No. of Specimens. 1
Remarks. Reported to be an unusual fish
Indian Harbour Lake is a fresh-water lake with a slight bar separating it from the sea

Appendix 166: Accession Book No. 1; Page 100; Museum No. 1609

Museum No. 1609
Scientific Name. Fossil Shark's Tooth; original composition preserved. (Eocene)
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Charlston, N. C., U. S. A.
Collector (c) and Donor (d). Purchased from Geo. (George) B. Frazer, West Medford, Mass., U. S. A.
Received. Apr. 22, 1903
No. of Specimens. 1
Remarks. [none given]

Appendix 167: Accession Book No. 1; Page 201; Museum No. 2957

Museum No. 2957
Scientific Name. Fish remains in blackish bituminous shale.
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. From the "Albert Shales" of Albert Mines, Albert Co., New Brunswick.
Collector (c) and Donor (d). Dr. Henry S. Poole (c.d.)
Received. 10 Feb. 1906
No. of Specimens. 1
Remarks. Devonian (Lower Carboniferous of Dawson)

Appendix 168: Accession Book No. 1; Page 212; Museum No. 3110 and 3111

Museum No. 3110 and 3111
Scientific Name. Fossil fish in limestone
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Wyoming, U. S. A.
Collector (c) and Donor (d). J. W. Vidito (d.) Halifax
Received. 15 May 1907
No. of Specimens. 2
Remarks. [none given]

Appendix 169: Accession Book No. 1; Page 213; Museum No. 3130

Museum No. 3130
Scientific Name. Fossil Mollusca & Shark's Tooth
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. From the Berton Clay, Upper Eocene, on shore near Christchurch, Hampshire, England
Collector (c) and Donor (d). Dr. Henry S. Poole (c.d.) Halifax
Received. 27 May 1907
No. of Specimens. 13
Remarks. Mollusca from the "Volute Bed", & Shark's Tooth from below that.

Appendix 170: Accession Book No. 2; Page 14; Museum No. 3940

Museum No. 3940
Scientific Name. Part of a Ganoid fish (cephalic shield ?of) In gray argillacious Limestone
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. [none given]
Collector (c) and Donor (d). Dr. H. S. Poole (d.)
Received. 29 Jan. 1912
No. of Specimens. 1
Remarks. [none given]

Appendix 171: Accession Book No. 2; Page 14; Museum No. 3941

Museum No. 3941
Scientific Name. Fish (complete), in concretionary Limestone. Leda Clay: Pleistocene
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Ottawa, Canada
Collector (c) and Donor (d). Dr. H. S. Poole
Received. 29 Jan. 1912
No. of Specimens. 1 (in 2 parts)
Remarks. [none given]

Appendix 172: Accession Book No. 2; Page 14; Museum No. 3942

Museum No. 3942
Scientific Name. Fish (complete), in light-buffcoloured Limestone
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Colorado, U. S. A.
Collector (c) and Donor (d). Dr. H. S. Poole (d.)
Received. 29 Jan. 1912
No. of Specimens. 1
Remarks. Green River ? (Middle Eocene)

Appendix 173: Accession Book No. 2; Page 14; Museum No. 3943

Museum No. 3943
Scientific Name. Fish (complete), in brownish-gray Shale
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. [none given]
Collector (c) and Donor (d). Dr. H. S. Poole (d.)
Received. 29 Jan. 1912
No. of Specimens. 1 (in 2 parts)
Remarks. [none given]

Appendix 174: Accession Book No. 2; Page 14; Museum No. 3950

Museum No. 3950
Scientific Name. *Holoptychius*, scale of, in Limestone (From a Ganoid fish)

Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Windsor Bridge, Windsor, Hants Co., N.S., 1870
Collector (c) and Donor (d). Dr. H. S. Poole
Received. 29 Jan. 1912
No. of Specimens. 1
Remarks. Carb. [Carboniferous] Limestone

Appendix 175: Accession Book No. 2; Page 15; Museum No. 3952

Museum No. 3952
Scientific Name. Tooth of *Diplodus*, in black Shale. (Fish tooth).
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. G. McKays mine, about 3 miles ESE of New Glasgow, Pict. Co., N.S.
Collector (c) and Donor (d). Dr. H. S. Poole
Received. 29 Jan. 1912
No. of Specimens. 1
Remarks. Carb. Limestone

Appendix 176: Accession Book No. 2; Page 15; Museum No. 3953

Museum No. 3953
Scientific Name. Tooth of *Rhizodus*, in black Shale. (Fish tooth).
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. I. McKays mine, near New Glasgow, Pict. Co., N.S.
Collector (c) and Donor (d). Dr. H. S. Poole
Received. 29 Jan. 1912
No. of Specimens. 2
Remarks. Coal Measures (Original & cast of tooth)

Appendix 177: Accession Book No. 2; Page 15; Museum No. 3954

Museum No. 3954
Scientific Name. Tooth of *Ctenoptychius*, in black Shale. (Fish tooth).
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. I. McKays mine, near New Glasgow, Pict. Co., N.S.
Collector (c) and Donor (d). Dr. H. S. Poole
Received. 29 Jan. 1912

No. of Specimens. 1
Remarks. Coal Measures

Appendix 178: Accession Book No. 2; Page 15; Museum No. 3955

Museum No. 3955
Scientific Name. Fish remains, in blackish Limestone.
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Trial Pit Basin, East River, near New Glasgow, Pict. Co., N.S.
Collector (c) and Donor (d). Dr. H. S. Poole
Received. 29 Jan. 1912
No. of Specimens. 3
Remarks. Coal Measures

Appendix 179: Accession Book No. 2; Page 15; Museum No. 3956

Museum No. 3956
Scientific Name. Scale of *Haloptychius*, in black Shale (Ganoid fish scale).
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. McLennan's Brook, to eastward of New Glasgow, Pict. Co., N.S.
Collector (c) and Donor (d). Dr. H. S. Poole
Received. 29 Jan. 1912
No. of Specimens. 1
Remarks. Coal Measures

Appendix 180: Accession Book No. 2; Page 15; Museum No. 3957

Museum No. 3957
Scientific Name. Fish remains, in black Shale. (Original & cast.)
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. "Pictou Coal Field", Pict. Co., N.S.
Collector (c) and Donor (d). Dr. H. S. Poole
Received. 29 Jan. 1912
No. of Specimens. 2
Remarks. Coal Measures

Appendix 181: Accession Book No. 2; Page 16; Museum No. 3974

Museum No. 3974
Scientific Name. Fish remains (scales etc.)
Common Name. [none given]
Phylum, &c. [none given]
Locality and when collected. Below Smelt Brook, north of New Glasgow, Pict. Co., N.S.
Collector (c) and Donor (d). H. Poole (c.) Dr. H. S. Poole (d.)
Received. 29 Jan. 1912
No. of Specimens. 4
Remarks. Permian

Appendix 182: Accession Book No. 2: Page 98. Museum No's. 4498 and 4499

Museum No. 4498 and 4499
Scientific Name. Two small bones () [sic] from the lower part of the cranial cavity of *Gadus collaris*
Common Name. The Cod-fish
Phylum, &c. Fish
Locality and when collected. Fish taken off Shag [Shad] Bay, Hx. Co., N.S.; about 24 April 1917.
Collector (c) and Donor (d). D. Coolin [Coolen} (c) From fish in Boutilier's Fish Market, Halifax, N.S.
Received. 1 May 1917
No. of Specimens. 2
Remarks. The fish was about 20 or 24 ins. Long. The bones seem to be inattached to the cranium. These bones are said to be smaller in Haddock, but they are said to occur in all fish.

Appendix 183: Accession Book No. 2; Page 200; Museum No. 5013

Museum No. 5013
Scientific Name. Painted papier-mache cast of *Pomolobus pseudoharengus* (Wilson)
Common Name. Alewife; Gaspereau
Phylum, &c. Fish
Locality and when collected. Stewiacke River or else Shubenacadie River, Col. Co., N.S.; 3 May 1921
Collector (c) and Donor (d). Obtained in market in Truro. Purchased from H. S. Cruikshank, Truro.
Received. 21 July 1921
No. of Specimens. 1
Remarks. [none given]

Appendix 184: Accession Book No. 2; Page 200; Museum No. 5015

Museum No. 5015
Scientific Name. Papier-mache cast of *Roccus lineatus* (Bloch)
Common Name. Striped Bass
Phylum, &c. Fish
Locality and when collected. At mouth of Shubenacadie River, at Black Rock, Col. Co., N.S.; on or about 20 May 1921
Collector (c) and Donor (d). Paid $10.00 for nos. 5013, 5014 and 5015
Received. 21 May 1921
No. of Specimens. 1
Remarks. Taken from the original fish, of which Acc. No. 5014 is the mounted skin
Weight of fish, 18 lbs.

Appendix 185: Accession Book No. 3: Page 19. Museum No. 5496

Museum No. 5496
Scientific Name. Globular white Quartz Pebble .29 X .27 inch diameter, found in stomach of a 10 inch Brook Trout *(Salvelinus fontinalis)*
Common Name. Brook Trout
Phylum, &c. Fish
Locality and when collected. Caught in Black Brook, about 200 yards above where it crosses the Old Truro Road, ½ mile south of Elmsdale, Hx. Co., N.S.; 18 June 1924
Collector (c) and Donor (d). Jerry Lonecloud (c) Halifax, N.S. Bought for 50 [cents]
Received. 15 July 1924
No. of Specimens. 1
Remarks. [none given]

Appendix 186: Accession Book No. 3; Page 268; Museum No. 6556

Museum No. 6556
Scientific Name. Photo. of *Salmo salar*, Linn. Male. Very large, weight just 55 lbs. length 55 ins., girth 30 ins. It is believed to have been the largest Salmon ever taken on the Fundy coast.
Common Name. Atlantic Salmon
Phylum, &c. Fish
Locality and when collected. Taken in a weir of the North Seine Co. (Sherman Steele, Hardy Corkum, Wyman Shaw) at Scotts Bay, Kings Co., N.S.; in the afternoon of Mon. 3 June 1929.
Collector (c) and Donor (d). It was brought to Canning on 4 June & sold to Lyons Bros., local fish dealers (Data from Miss Ada Reynolds, Canning, N.S.)
Received. 19 Oct. 1929
No. of Specimens. 1
Remarks. The quality of the fish is said to have been very fine, its flavour very delicate and colour deep pink. The photo. shows the purchaser Fred Lyons, holding the fish.

Appendix 187: Accession Book No. 4: Page 249. Museum No. 7547

Museum No. 7547
Scientific Name. "Hardened Plastic" made from the hardened muscle (flesh) of Cod-fish (*Gadus collarias*) at the Laboratory of the Fisheries Experimental Station, Halifax, N.S. In order to test its suitability.
Common Name. Cod-fish
Phylum, &c. Fish
Locality and when collected. [none given]
Collector (c) and Donor (d). Dr. W. W. Johnston (d.) Fisheries Exper. Station, Halifax,
Received. 14 Feb. 1933
No. of Specimens. 1
Remarks. See Dr. W. W. Johnston paper on "Hardened Plastic from Fish Muscle" read before N.S. Inst Sc. Hx. 13 Feb. 1933.
This specimen is marked "185" which indicates it was made from the cod.
"Hardened Plastic", is so far made from casein (and) from milk and is used in making electric insulators, umbrella handles, knitting needles, buttons, and many other articles in everyday use. It can be coloured, takes a brilliant polish, and is not inflammable.
There is 20% solid matter in fish muscle, of which 90% is proteins. The process used at the Fish Exp't. Station, is:
(a) pressed in hydraulic press; (b) immersed in formaldehyde to harden it; and
(c) dried with heat; but better if dehydrated with alcohol.
This specimen is not perfectly homogeneous and not clear, but yet is commercially useful.
It can be made from either Cod, haddock, dog-fish etc.

Appendix 188: Accession Book No. 5: Page 45. Museum No. 7858

Museum No. 7858
Scientific Name. *Thunnus secundodorsalus,* Storer
Common Name. Albacore
Phylum, &c. Fish
Locality and when collected. Off Hubbards, St. Margaret's Bay, N.S. Photo'd at Hubbards, Lun. Co., N.S. About 15 Aug., 1934.
Collector (c) and Donor (d). Geo. Gannin (c.d.) photographer, Halifax, N.S.
Received. about 22 Aug. 1934
No. of Specimens. 2
Remarks. Photos. of Albacores, *Thunnus secundodorsalus*, Storer, in motion within the large, netted enclosure or "pound" in which the Coolins [Coolens] store alive the Albacore which they have taken in net-traps off Hubbards, St. Margarets Bay, N.S. The pound is located at the Coolins' [Coolens'] wharf, near road to Fox Point, on western side of Hubbard's Cove, opposite to Dauphinee Pt., just inside Lun. Co., N.S. Photo'd at Hubbards, Lun. Co., N.S. Photos taken by G. Gannin about middle of Aug., 1934.
See also acc. No. 7945

Appendix 189: Accession Book No. 5: Page 59. Museum No. 7945

Museum No. 7945
Scientific Name. *Thunnus thynnus,* Linn. (*T. secundodorsalis* Storer)
Common Name. Great Albacore or Tuna
Phylum, &c. Fish
Locality and when collected. Photo'd at Hubbards, N.S.; 16 Sept., 1934; by E. S. F. Piers.
Collector © and Donor (d). Edward S. F. Piers, C. E., photographer, Halifax, N.S.
Received. 25 Sept. 1934
No. of Specimens. 12
Remarks. Photos. (12) showing work of emptying or spilling a netted "pound" or enclosure containing 30 previously-captured Great Albacore or Tuna, *Thunnus thynnus,* Linn. (*T. secundodorsalis* Storer), and harpooning or otherwise killing the large fish; at Coolin's [Coolen's] albacore pound, on west side of inner cove of Hubbards Cove, the pound actually in Lunenburg County, N.S.; Sunday 16 September, 1934. The captured fish are kept alive in this pound, enclosed by a buoyed net, until they are killed for marketing.

The photos. are arranged in the approximate order in which they were taken, & there fore illustrate the progress of the work.

(a) Showing the pound net; man in stern of boat at left, has just thrown a harpoon at a fish. Old Dauphinee House, on Dauphinee Head in background. Looking NE.
(b) Pound reduced in size, and foot-part of pound net being hauled-in; fish breaking surface of water while rushing about. Looking NE.
(c) Ditto. The corked net of the pound being hauled in. Looking NE.
(d) Ditto. This realy should be before or after (b).Looking NE.
(e) Man on end of Coolin's [Coolen's] wharf, with harpoon. Looking NE.
(f) Ditto. After having struck a fish with the harpoon. Looking NE.
(g) Four men on wharf, hauling on a harpoon line; the dart of which fast in the body of a fish. Looking NE.
(h) Man on end of wharf, just as he had hurled a harpoon at a fish. Looking NE.
(I) Fish at surface, with headless harpoon about to be stuck into it by man on wharf. Looking ?
(j) Fish swimming rapidly at surface, with tail showing. Looking ?
(k) Fish below surface, as seen from above. The dorsal finlets near tail show clearly. Looking ?
(l) Man on shore killing the fish with pickaxes, etc. About 4 fish are seen. Sheds on wharf in background. Looking N.

The inner net was a heavy one with cork buoys

Appendix 190: Accession Book No. 5: Page 281. Museum No. 8927

Museum No. 8927
Scientific Name. Otoliths (calcareous concretions) from the "ear" of *Gadus collarias,* L.
Common Name. Cod-fish
Phylum, &c. Fish
Locality and when collected. Locality not stated; but no doubt from off Halifax Co., N.S.

Collector (c) and Donor (d). Bought from Mrs. R.F.Eagar, 90 ½ Edward St., Halifax
Received. 21 Oct. 1937
No. of Specimens. 6 specimens in vial (probably 3 pairs)
Remarks. They are sometimes carried in the pocket as "lucky stones"
See sketch of one otolith

Appendix 191: Accession Book No. 5: Page 281. Museum No. 8928

Museum No. 8928
Scientific Name. Dried pupils of Fish Eyes
Common Name. [none given]
Phylum, &c. Fish
Locality and when collected. Locality not stated; but no doubt from off Halifax Co., N.S.
Collector (c) and Donor (d). Bought from Mrs. R. F. Eagar, 90 ½ Edward St., Halifax
Received. 21 Oct. 1937
No. of Specimens. 9 (in vial)
Remarks. [none given]

VI. A CHRONOLOGICAL LIST OF CORRESPONDENCE RECEIVED BY HARRY PIERS

Filed in the Nova Scotia Museum of Natural History Library Under: PIERS PAPERS: V, Science; C, Ichthyology; (a), Correspondence

Harry Piers wrote all his correspondence by hand and therefore, in most cases, there are no copies or drafts of most letters of enquiry or responses to enquiries sent out. The following is a list of correspondence he received that have been catalogued by Susan Whiteside under the above heading.

1908 May 6: From Mary T. Dwyer, St. Mary's Boys School, Halifax; to Piers acknowledging information given on a fish specimen sent to him.

1912 Feb. 6: From George M. Bowers, Commissioner, Bureau of Fisheries, Washington; to Piers concerning some fish specimens transferred from U. S. National Museum to Nova Scotia Provincial Museum.

Feb. 24: From H. M. Smith, Acting Commissioner, Bureau of Fisheries, Washington; to Piers enclosing a list of tagged specimens taken from waters at Halifax (1877-1880). Enclosed Proceedings of United States National Museum, vol.3, 1880.

1913 Dec. 30: From R. Rathbun, Assistant Secretary, United States National Museum; indicating that specimens in drawings sent by Piers have been forwarded to Professor Metcalfe, Oberlin College, Ohio for identification.

1914 Jan. 5: From Alfred Ogden, Bedford, Nova Scotia; to Piers requesting identification of a fish from Bedford Basin.

Jan. 7: From Alfred Ogden, Bedford Fish Hatchery; to Piers giving location and date for above specimen of "Leather jacket" or "Trigger fish".

1915 Jan. 6: From J. MacDonald of The Glace Bay Gazette; to Piers, sending specimens of a strange fish, commonly known as a red mud-sucker. Also a page of notes written by Piers on the specimen (Jan. 7); and a newspaper article on the 'strange fish'. (Jan. 2, 1915).

Feb. 26: From Alfred Ogden of Bedford Fish Hatchery; to Piers concerning the introduction of fish into N.S. waters.

Feb. 28: From Philip Cox of Fredericton; to Piers giving notes on various species of Nova Scotia fish .[Acc. Nos. 217, 289, 355, 394, 456, 538, 932, 939, 1097, 1408, 1415, 1532]

Feb. 29: From David Starr Jordan, Leland Stanford Junior University, California; to Piers concerning measurements of *Fistularia* [cornetfish].

Mar. 4: From Alfred Ogden of Bedford; to Piers giving information on fish introduced to Nova Scotian waters.

Mar. 6: From Philip Cox of Fredericton; to Piers discussing *Notropis cornutus* and other species of Nova Scotia fishes.

Mar. 13: From B. A. Bean of U. S. National Museum; to Piers indicating two species of *Fistularia* [cornetfish]on Nova Scotian coast.

Mar. 25: From Edward E. Prince, Dominion Commissioner of Fisheries, Ottawa; to Piers concerning spawning periods of Nova Scotian food-fishes.

Apr. 6: From B. A. Bean, Curator, Division of Fishes, United States National Museum, Washington; to Piers concerning a specimen of Scup, *Stenotomus chrysops.*

Apr. 10: From David Starr Jordan, Office of the Chancellor, Leland Stanford Junior University, California; to Piers concerning a description of *Fistularia* [cornetfish].

Apr. 15: From J. Triyder, Dept. Of Zoology, Leland Stanford University, California; to Piers concerning *Fistularia* [cornetfish]

Apr. 20: From B. A. Bean, U. S. National Museum; to Piers concerning a specimen of Scup.

Apr. 25: From R. J. Colp of Little Hope, Queens Co.; to Piers concerning description of a fish found on Sept. 5, 1914.

July 3: From Philip Cox, Biological Station, St. Andrew's, New Brunswick; to Piers concerning *Liparis cinesta* and *Maurolices borealis.*

Aug. 17: From George A. Cornish, Faculty of Education, University Of Toronto; to Piers concerning a specimen of *Lycodes* taken at Canso.

Aug. 24: From Philip Cox, Fredericton; to Piers concerning *M. pennaute, Leipais lineata, Aspidophoroides monopterygius* (Block), *Mallotus villosus* (Capelin).[Acc. No's. 867, 2449 2431, 789 respectively].

Sept. 16: From G. W. Field, Chairman, Commissioners on Fisheries and Game, Boston; to Piers sending a copy of a publication on the fish of Massachusetts.

1916 Jan. 17: From Andrew Halkett, Canadian Fisheries Museum, Ottawa; to Piers concerning *Tarpon atlanticus.*

May 2: From Edward E. Prince, Dominion Commissioner on Fisheries, Ottawa; to Piers concerning records of Tarpon in Nova Scotia.

1917 Mar. 24: From A. W. Law, Secretary of Abbey and Imbrie, Division of Baker, Murray & Imbrie, Inc., New York; to Piers sending framed plates of flies (fishing tackle). Question as to form of mailing.

Mar. 27: From A. W. Law, New York; to Piers, sending flies and catalogue by Parcel Post.

1919 May 15: From C. J. Connolly, University of St. Francis Xavier College, Antigonish, Nova Scotia to Piers concerning earstones in a specimen of young angler.

Oct. 17: From A. MacEchen, Barrister, Town Hall, Inverness, Nova Scotia; to Piers concerning the preparation of fish for exhibition purposes.

1920 Oct. 8: From H. F. Moore, acting commissioner, Bureau of Fisheries, Washington; to Piers concerning a shark jaw specimen.

Oct. 26: handwritten draft from Piers to H. F. Moore, Acting Commissioner, Bureau of Fisheries, Washington, D. C.; concerning identification of shark jaws. Sending specimens for examination by Mr. Lewis Radcliffe.

Dec. 7: From H. F. Moore, Washington, D. C.; to Piers concerning identification of jaws of sharks and rays.

1921 Mar. 31: From W. H. Celease (?), Wolfville, Nova Scotia; to Piers concerning a salmon specimen, its weight, location.

Sept. 28: From C. J. Connolly, University of St. Francis Xavier College; to Piers concerning information on *Lophius*.

Oct. 12: From C. J. Connolly, St. Francis Xavier College; to Piers concerning a paper on specimen of *Lophius*.

Dec. 14: From Miss Florence Daykin, Somerville, Massachusetts; to Piers concerning a species of fish called a Mermaid.

1922 Jul. 29: From Philip Cox, Hubbards, Nova Scotia; to Piers concerning several species and specimens of freshwater fish found near Hubbards.

1923 Jun. 30: From David Starr Jordan, Stanford University P. O., California; to Piers, sending his "Classification of Fishes".

1924 Mar. 10: Gerry P. Brihn (?), Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts; to Piers, acknowledging permission to quote the Blue Shark records.

Apr. 24: S. Edgar Marsh, Registered Professional Engineer of Nova Scotia Provincial Land Surveyor, Bridgewater, Nova Scotia; to Piers re.: White Fish.

1929 Jun. 15: From Ada M. D. Reynolds of Canning, Nova Scotia; to Piers concerning a salmon caught at Scott's Bay, Bay Of Fundy, Nova Scotia, 3 June 1929.

Oct. 17: From Ada M. D. Reynolds of Canning, Nova Scotia; to Piers enclosing photographs of salmon caught at Scott's Bay, Bay Of Fundy, Nova Scotia.

1931 Oct. 7: From Philip Cox, Fredericton, New Brunswick; to Piers concerning specimens of Nova Scotian fish.

1932 Jul. 13: From H. Wyckoff Rogers, Barrister, Amherst, Nova Scotia; to Piers concerning Bass and White Perch (Acc. No. 7428).

1933 Feb. 28: From J. W. Dawson Stearns, Editor, "The Spectator", Annapolis Royal, Nova Scotia; to Piers concerning sharks in Basins. (Acc. No. 7508)

VII. A LIST OF NOTES AND SKETCHES BY HARRY PIERS

Filed in the Nova Scotia Museum of Natural History Library Under: PIERS PAPERS: V, Science; C, Ichthyology; (b), Notes

Harry Piers usually did rough laboratory notes including measurements, scale counts and fin ray counts and sometimes rough sketches before entering the record in his accession books. The following is a list of these notes now on file in the Nova Scotia Museum Of Natural History library.

1. Pen sketch of *Carcharhinas obscurus* (Le Sueur), Dusky Shark or *Prionace glauca* (Linn.), Great Blue Shark, caught at entrance to Halifax Harbour, 10th. Oct., 1920. (20.5 X 13 cm.) (Acc. No. 4941)

2. Note on "Cat Fish". 18 June 1924. (13 X 9.5 cm.)

3. Note on White Perch and Yellow Perch. (12.5 X 20 cm.)

4. Note on Yellow Perch, received 24 June 1924. (12.5 X 20 cm.) (Acc. No. 5479)

5. Note on White Perch, received 24 June 1924. (12.5 X 20 cm.) (Acc. No. 5480)

6. Note on Family Salmonidae. (12.5 X 20 cm.)

7. Note on unidentified shark, with sketch made by K. G. Dalton, 17 Sept. 1923. (12.5 X 20 cm.)

8. Pen sketch of Sword Fish, Cole Harbour, Hfx. Co., Nov. 5, 1902 (18 X 24 cm.) (Acc. No. 1090)

9. Sketches and notes of *Vomer setipinnis* Mitchill 1936. (12 X 20 cm.) 3pp. (Acc. No. 8587)

10. Notes on Whitefish, Millipsigate Lake, Lunenburg Co., 5 May 1924. (19.5 X 26.5 cm.) Draft copy. (Acc. Nos. 5225, 5454, 5455)

11. Pencil sketch of a shark caught in Halifax Harbour, 31 Oct. 1924. *Lamna cornutrica* (Gmelin) (13 X 20 cm.) (Acc. No. 5571)

12. Note on Salmon. June 1928 (12 X 20 cm.) (Acc. No. 6252)

13. Short notes on species of fish. (Acc. Nos. 4929/178, 4930/209, 4931/222, 4932/250, 4933/281, 4934/323, 4935/645, 4936/1023) (13 X 20.5 cm.) A. H. Leim.

14. Notes on Common Pipefish, *Siphostoma fuscum* (Storer) (19.5 X 26.5 cm.) (Acc. No. 7213)

15. Notes and chart on Common Pipe Fish, *Siphostoma fuscum.* 2pp. (19.5 X 26.5cm) a, notes; b, chart. (Acc. No. 7214)

16. Notes on Nova Scotia sharks. #38, 62, 63, 67, 68, 69, 71, 73, 75, 76. (21 X 27.5cm.)

17. Several notes on shark (Acc. No. 7508), Campobello Island, in Passamquoddy Bay, N.B. Nov., 1932.
    (a) (14 X 21cm.)
    (b) note on Mr. Putnam's shark tooth exhibit 20 Apr. 1874 (12 X 20cm.)
    (c) note on shark tooth received 2 Nov. 1932. (12.5 X 10cm.)
    (d) Note on man-eater shark, *Carcharodon carcharis* Linn. (12 X 20cm.) (Acc. No. 7508)
    (e) note on above shark (13 X 21cm.)
    (f) note on 7508 (12.5 X 20cm.)

18. Record of where several species of (?) Were caught. (20 X 12.5cm.)

19. Note on Bigelow, 1925. (12 X 20cm.)

20. Chart on *Carcharodon carcharias* (Linn.) Man-eater shark found in North Atlantic. (12 X 20cm.)

21. Note on *Carcharodon carcharias* - one of the largest of sharks. 30 ft. Range of species. (12 X 20cm.)

22. Note on *Siphostoma fuscum*, Pipe Fish, received 28 Nov. 1932. (12 X 20cm.) (Acc. No. 7524)

23. Same as item no. 17; Dates of occurrence of man-eater shark. (12 X 20cm.) (Acc. No. 7508)

24. Diagram of man-eater shark tooth. (12 X 20cm.) (Acc. No. 7901)

25. Notes on occurrences north of New Jersey of man-eater shark. (21 X 27.5cm.) (Acc. No. 7508)

26. Pen and pencil drawings of shark teeth. (14.5 X 22cm.) (Acc. Nos. 2276, 2271,2272)

27. Pencil drawings of shark teeth. (10 X 14.5cm.)
    (a) Acc. No. 2273
    (b) Acc. No. 2272
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Addendum

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Figure 100. Letter dated 26 March 1915 to Harry Piers from Philip Cox concerning Fourspine Stickleback from St. Marys Bay, Digby Co., N.S. (Negative No. 24,771)

Figure 101. Original note by Harry Piers on five specimens of Threespine Stickleback collected at St. Marys Bay, Digby Co., N.S. on 30 June 1919 by Philip Cox (Museum No. 4786, Negative No. 24,768)

Figure 102. Letter dated 26 April 1915 to Harry Piers from Philip Cox concerning Fourspine Stickleback from St. Marys Bay, Digby Co., N. S (Negative No. 24,770)

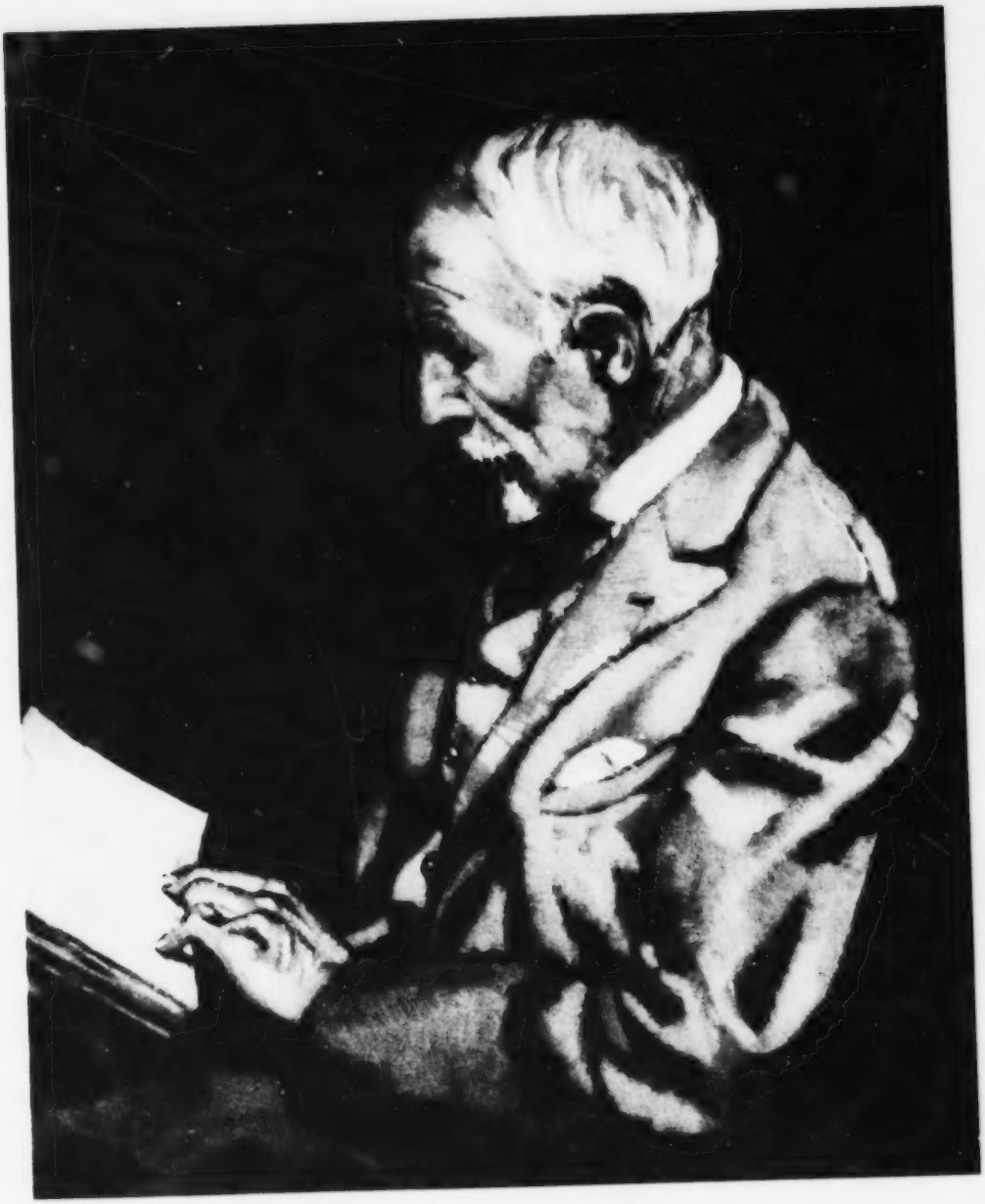


Figure 1. Portrait Harry Piers, 1870 - 1940. Painting by LeRoy Zwicker (Negative No. 9,568)

Figure 2 A. Harry Piers at work, about 1933-1935, Nova Scotia Provincial Museum, Spring Garden Road, Halifax (Negative No. 9,620).

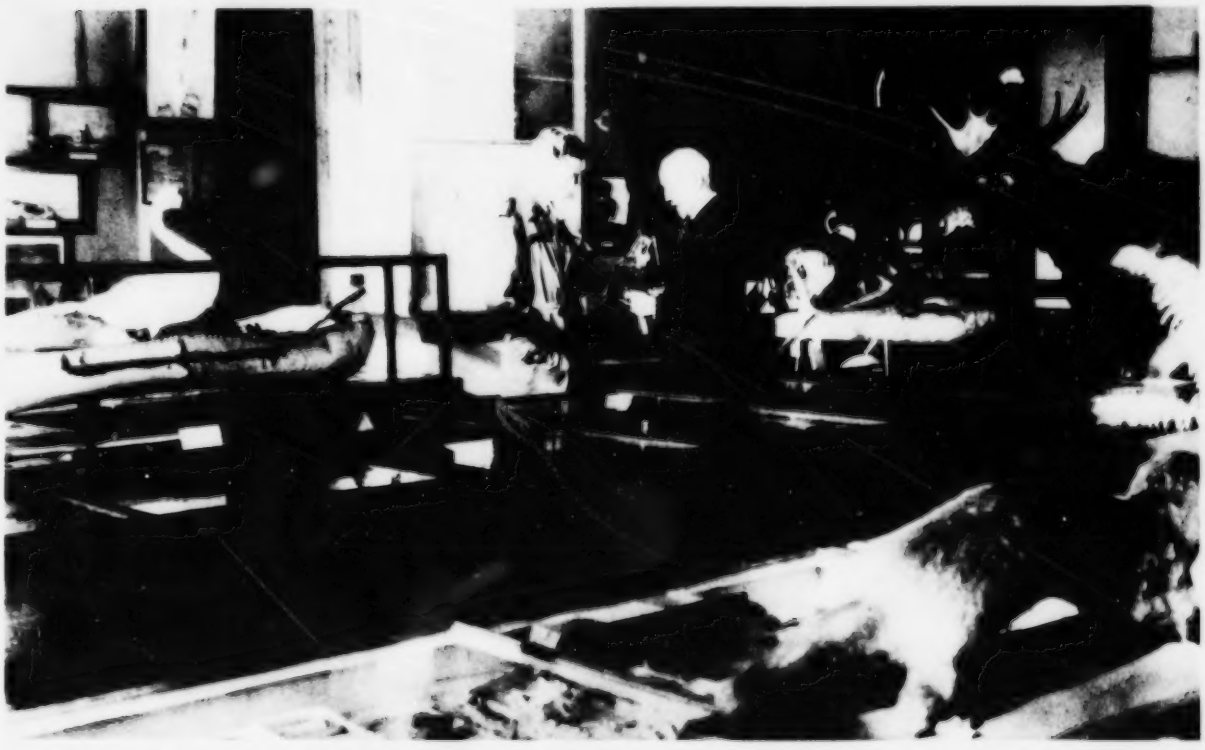


Figure 2 B. Harry Piers at work, about 1933-1935, Nova Scotia Provincial Museum, Spring Garden Road, Halifax (Negative No. 10,786).

Lateral line scales	27	26	27	27	● average of 26¾ scales.

FIN RAYS:

Dorsal	II/14	II/14	II/14	II/14	adipose fin .87 inch long.
Pectoral	15 (one side with 14)	14	14	14	
Ventral	9	9	9	9	
Anal	10½	10½	10½	10½	with a very indistinct ray in front.
BRANCHIOSTEGALS	13	13	13	13	
GILL RAKERS	6	7	7	7	

MISCELLANEOUS:- Teeth very strong. Teeth on vomer . Top of head flat. Caudal (tail) pulled.

COLOUR:- Dark above, with pale, lightgrey spots about .10 inch diameter; lower parts whitish, with minute black punctulations about scales. No red spots on body. Upper fins with pale spots; pectorals and lower fins with orange, mostly on their posterior parts. Operculum with bluish, yellow and coppery-coloured tints. Iris yellow.

CONTENTS OF STOMACH: - specimens A, B, and C had in their stomachs remains of salmon-sized Diptera about 4 in. long. Specimen D had hardly anything in it. Stomachs were all yellow.

mean ● known age for this species: Head 4½ in length; depth 4 in length; eye 4½ in head; maxillary among ½ of head.
B(female) 11 on 12; Dorsal 11, Anal 11; Lat. line 185-205; length 36 in.

Dug up on property of Dr. Frank A. R. Gow, Ridgelands, on the ridge between Greenwich and the Cornwallis Valley, Kings Co., N.S.; about 1934.
Two old Acadian French cellars are on this property, and this boat was dug up near one of them.

Dr. F. A. R. Gow (c.d). 11 July 1
per Rev. Kenneth Wainwright

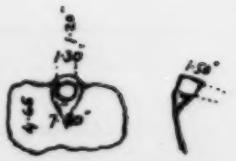


PLATE 4

Figure 4. An example of Harry Piers inserting small sketches within and to the side of paragraphs to illustrate particulars of Lake Trout records from Sherbrooke Lake (Museum No. 7832, Negative No. 23,850).

PLATE 5

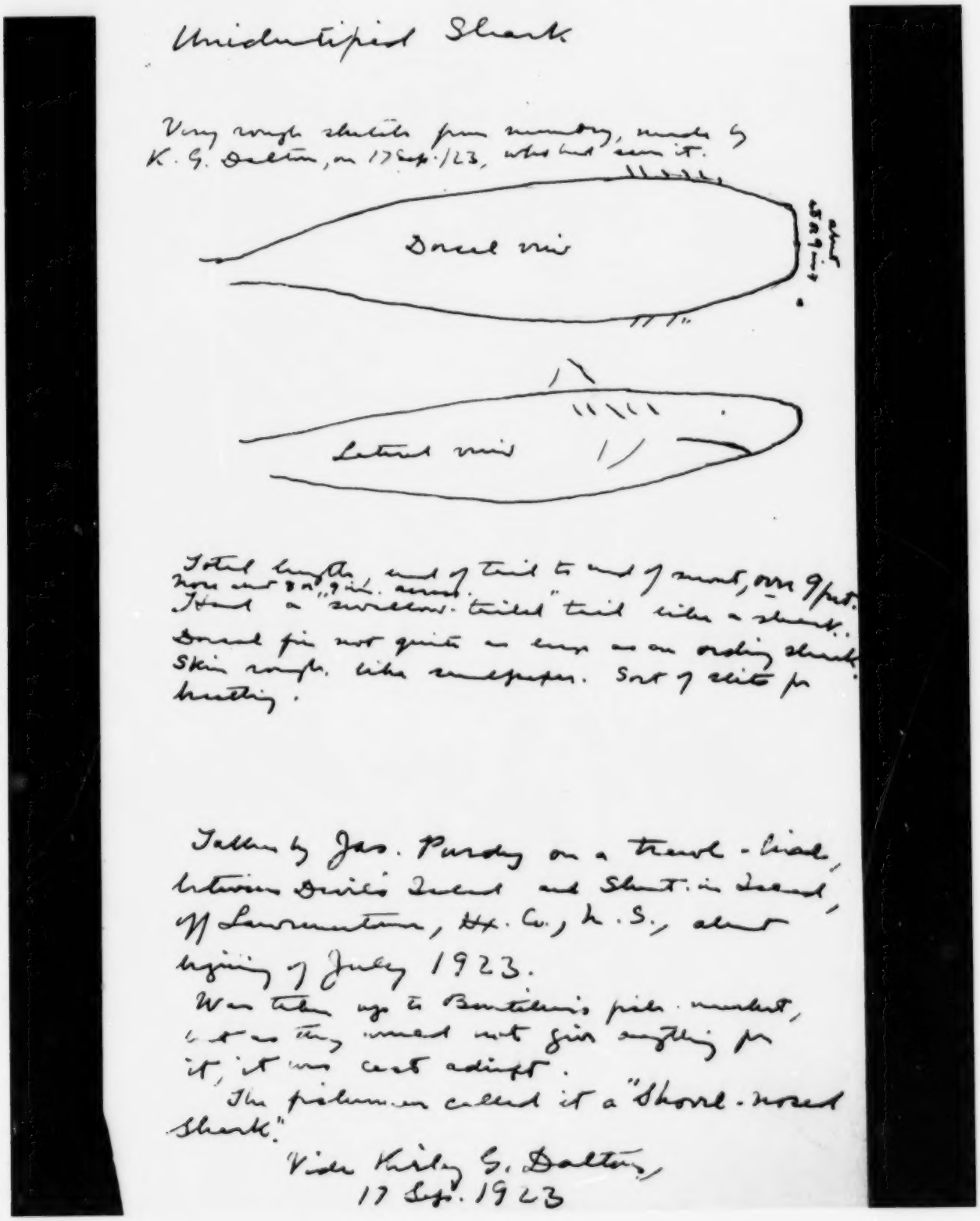

Unidentified Shark
Very rough sketch from memory, made by K. G. Dalton, on 17 Sept. '23, who had seen it.
Dorsal fin
Lateral fin
Total length, end of tail to end of snout, abt 9 ft. More not 8 or 9 ft. exact.
Had a "swallow-tailed" tail like a shark.
Dorsal fin not quite as erect as on ordinary shark.
Skin rough, like sandpaper. Sort of skin for hunting.
Taken by Jas. Purdy on a trawl-line between Devil's Island and Shut-in Island, off Lawrencetown, Hx. Co., N.S., about beginning of July 1923.
Was taken up to Bentinck's fish-market, but as they would not give anything for it, it was cast adrift.
The fishermen called it a "Shovel-nosed Shark."
Vide Kirby G. Dalton,
17 Sept. 1923

Figure 5. Rough sketch from memory of a "Shovel-nosed Shark" by K. G. Dalton with notes by Harry Piers, but not inscribed in his Accession Book (Negative No. 23,494).

GOVERNMENT OF NOVA SCOTIA.

Provincial Museum,
Provincial Science Library.
Public Records of Nova Scotia.
Govt. Mineral Exhibit, Prov. Exhibition.
Harry Piers, Curator, Librarian, & Dy. Keeper of Records.

PROVINCIAL MUSEUM,
N. S. TECHNICAL COLLEGE,
HALIFAX, NOVA SCOTIA, CANADA.

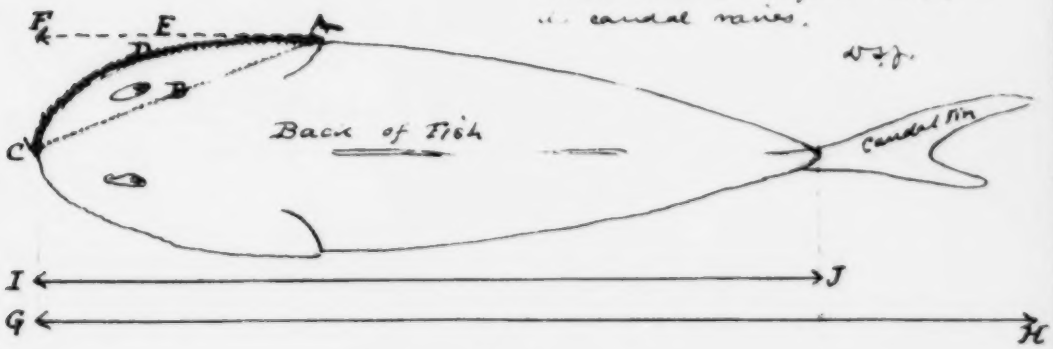
Measurements of Fish. 191

Question 1.

In recording the "Length" of a fish (apart from proportionate measurements such as "head in length", "depth in length", in which case "length" does not include the caudal fin) does the length include the caudal fin, as in figure, G to H (7 inches in this case); or is it from I to J (5½ inches), the same as in proportionate measurements?

Writers have not been over particular usually the length is reckoned to the end of the caudal fin, G to H. Proportionate measurements, as worked out 1905, Bulletin, are from I to J, as the caudal varies.

W.F.P.



Question 2.

In measuring head, for proportionate measurements ("head in length"), should the head be measured (a) in a direct line, with dividers, as red-line A B C (2·15 inches); (b) as a curved line, as with a tape-line, as blue-line A D C (2·50 inches); or (c) as a straight line (dotted line) A E F (2·00 inches)? You see the three ways named give different proportions of "head in length."?

In a direct line, with dividers, not following the curve of the cheeks. A E F. But some authors vary from this, especially towards H.

Yours sincerely
David Starr Jordan

Memo stamped (summary)
Stan A of Ammocoetes
to Explorer

29 Feb. 1915.

Figure 6. Letter Harry Piers wrote to David Starr Jordan to clarify techniques of measuring fish which Jordan answered 29 February 1915 (Negative No. 23,461).

My Dear Piers.

Pardon delay in replying to your inquiry of 18th inst., which I was very glad to get, and I hope the little information elicited may be of some use to you in your proposed list of N.S. fishes. I congratulate you on the considerable undertaking, which if successful will be a success. I hope to secure a copy of it as soon as published. The delay in replying was in part due to the difficulty of finding my old fishing book - used in N.S., but it kept lie unearthed it and I am sorry you find notes on the species observed.

335 Couesius plumbeus. Middleton, Annapolis River. Morton's Brook. Tributary of Lr Hawk, between New Germany & Springfield. A small variety, scales somewhat exceeding 1/2 inches in length. Barbel minute. Rectoral cyclia red. Quite widely distributed.

355 Semotilus atromaculatus, horned dace. Annapolis River, Middleton. Morton's Brook. Lr Hawk near Bridgewater. Springfield Lake. Cloud Lake. Common.

334 Abramis chrysoleucas. Tancook Island. Waterloo & other lakes near Albany Station, drained into the Rectory. Lr Hawk near Bridgewater. Springfield Lake. Cloud Lake. Quite Common.

Catostomus Commersonii. Brook Suckers. Annapolis River near Middleton. Quicker's Lake. Cloud Lake. Not uncommon.

over

Figure 7 A. Page one of two page letter to Harry Piers from Philip Cox dated 28 February 1915 listing fishes he collected in Nova Scotia in August 1890, and which Cox congratulates Piers on his proposed list of Nova Scotian Fishes (Negative No. 23,511).

1415. Perca fluviatilis. Yellow Perch.
Lydia's Lake Digby - small + rough specimens.
Quicker's Lake, Waterloo Lake - La Have, near
Bridgewater, Springfield Lake, Cloud Lake
+ locally distributed species.

1039 Fundulus diaphanus. Fresh-water Killifish.
Annapolis River Middleton. Morton's Creek,
La Have, near Bridgewater, Springfield
Lake. Cloud Lake. Abundant.

217 Ameiurus nebulosus. Catfish.
Quicker's Lake, and in all drained by the Victoria
Springfield Lake. Reported from Cloud
Lake, Not common.

1097 Pygosteus pungitius. 9-spined Stickleback.
La Have River, near Bridgewater.
Rare.

Coccus Americanus. White Perch.
Springfield Lake, La Have. Uncommon.

I have no note of the occurrence of Hadropis
cornutus. F. heteroclitus a purely salt water fish
was not observed, but is certain to occur
in your salt & brackish areas.
I did not find Eupomotis gibbosus, but
it would seem unlikely if it was not
found in your province.
These collections were all made between
July. 4 + 23rd [redacted] 1890.

Very sincerely Yours.
Fredericton N.B. Philip Cox
Feb. 28/15.

Figure 7 B. Page two of two page letter to Harry Piers from Philip Cox dated 28 February 1915 listing fishes he collected in Nova Scotia in August 1890, and which Cox congratulates Piers on his proposed list of Nova Scotian Fishes (Negative No. 23,510).

Bedford Fish Hatchery

Subject. Bedford N.S. 26th Feby. 1915

Dear Sir Piers,

In reply to yours of yesterday concerning the introduction of species of fish into Nova Scotia Waters

I beg to say that White fish and Salmon trout from the great Lakes have been hatched at Bedford and planted in nearly every Lake in Nova Scotia. This was kept up for over twenty years, but these fish did not propigate in our Waters and we have never seen one since planted.

About 10 years ago I went to New York State and procured some Rainbow trout eggs which were hatched here and planted in several Lakes, some of which were Chocolate Lake, Spruce Hill Lake, Long Lake and Anderson Lake.

The Micmac Club had some for their Lakes, and Thos. McMillan, Esq. of Truro had some planted in his Lake which grew rapidly for two years and then disappeared no doubt they were all caught up.

As

Figure 8 A. Page one of two page letter to Harry Piers from Alfred Ogden dated 26 February in which Ogden provides details of fish introductions in Nova Scotia (Negative No. 23,518).

Bedford Fish Hatchery

Subject. Bedford, N.S. 191

As he permitted the public to fish there when they are a year old.

Those planted in Chocolate Lake were all killed as went to see. When Henderson & Pete drained the lake to build a dam, which was done three months after the fish were planted.

I have not heard of there being any Rainbows in the other lakes in which they were planted.

You can safely say that there are no fish of any kind in our waters which are not indigenous.

Yours very truly
Alfred Ogden.

Harry Piers Esq.
Halifax
N.S.

Figure 8 B. Page two of two page letter to Harry Piers from Alfred Ogden dated 26 February in which Ogden provides details of fish introductions in Nova Scotia (Negative No. 23,516).

PLATE 10

Fish of N.S.

Bedford Fish Hatchery

Ans. 6 Mar. 1915

Subject. Bedford, N. S., 4th March 1915

Dear Mr. Piers,

In reply to yours of the 1st inst. I find that the scientific names of the fish introduced into our waters are as follows, White fish (Coregonus Clupeiformes), Great Lake trout (Cristivomer Namaycush), Rainbow trout (Salmo iridens).

The Rainbows were introduced here in 1899. and 1900. for two years only.

The White fish and Great Lake trout were introduced here previous to my taking charge of the Hatchery in 1898. They were probably introduced about 1877. I have not any of the Reports prior to 1898.

The Whitefish and Great Lake trout are planted in nearly every Lake in the Province but they have not been found in small ponds as the waters are too hot for them.

Yours faithfully,
Alfred Ogden.

H. Piers, Esq.,
Halifax,
N.S.

Figure 9. Letter to Harry Piers from Alfred Ogden dated 4 March 1915 in which Ogden provides details of fish introductions in Nova Scotia (Negative No. 23,517).

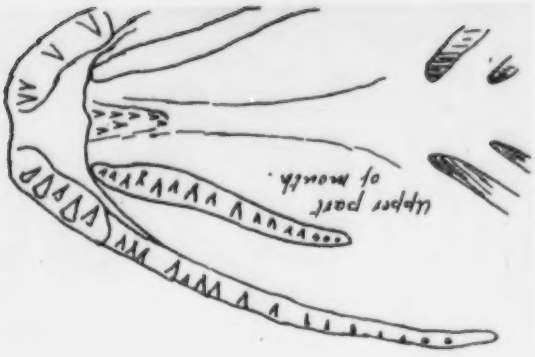
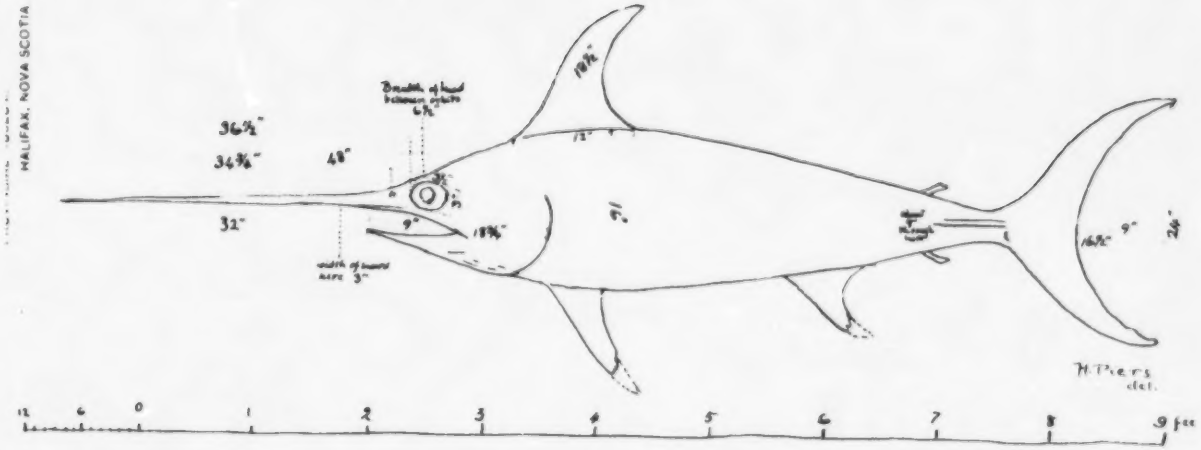


Figure 10. Line drawing of upper part of mouth of Great Lake Trout from Nine Mile Lake, Lun. Co., N. S., by Harry Piers (Museum No. 935, Negative Number 12,439).



SWORDFISH

Xiphias gladius, L.

Cole Harbour, Halifax Co., N. S.

Nov. 5, 1902

got into a channel & tried to pass out by wrong way

Total length 9ft 8in.

Figure 11. Sketch including measurements of a Swordfish from Cole Harbour by Harry Piers (Museum No. 1090, Neg. No. 23,506).

Canadian Fisheries Museum,
Ottawa, 17th January 1916.

an. 31 Jan. 1916.

Harry Piers Esq.
Curator, Provincial Museum,
Halifax, N. S.

Dear Mr. Piers,

I am to-day in receipt of your letter in regard to Tarpon atlanticus, a specimen of which is recorded in my 'Check-List' as having occurred at Isaac's Harbour. There is I believe a published account of this specimen in one of the back numbers of the 'Ottawa Naturalist' by Prof. Prince, and if I could only lay my hands on the back numbers I would look it up. I can however interview the editor on the matter in case you have not got the 'Naturalist' in your library. I understood Prof. Prince to say that the specimen was from Isaac's Harbour, and I feel sure that he can furnish you with the desired information. Before the Winter last year was [illegible] over I left Ottawa for out-door work, and was gone until the Autumn and I am very sorry indeed that you should have written me before without getting a reply. I have gone over the letters in the office, and find there is such a letter addressed to me,

Figure 12 A. Page one of two page letter to Harry Piers from Andrew Halkett dated 17 January 1916 concerning Tarpon (Museum No. 3034, Negative No. 23,489).

but as there was no one to act for me in my official capacity during my absence, it was overlooked. I send you my apology for the omission which I assure you was unintentional, and if I can supply you with further information I will be glad to do so.

Yours sincerely,

Andrew Halkett

Figure 12 B. Page two of two page letter to Harry Piers from Andrew Halkett dated 17 January 1916 concerning Tarpon (Museum No. 3034, Negative No. 23,488).

ADDRESS REPLY TO
DEPUTY MINISTER
AND [illegible]

N°

DEPARTMENT OF THE NAVAL SERVICE

Ottawa, Feby 8th, 1916.

Ans. 24 Feb. 1916.
J.E.P. No. 670. Tarpon atlanticus.

Dear Mr. Piers,-

In reply to your letter of the 31st ult., respecting specimens of Tarpon, taken on the Nova Scotia coast, in recent years, I have somewhere a letter which I cannot put my hands on, enclosing scales taken from the second specimen which was taken in the Isaac's Harbour district.

I happened to speak of these fishes to Mr. C.A.Wilson, the fish merchant, Halifax, not long ago, and if I remember correctly, he said that a third specimen had been obtained. I think on the Chester shore. Perhaps you might see Mr. Wilson, and ask him if he could tell you the parties who could give you information about any further specimens, in addition to that which you have in your museum.

I enclose a reprint of a paper on the egg of Myxine, a very interesting egg, and very rarely obtained.

Yours faithfully,

Edward E. Prince

Dominion Commissioner of Fisheries.

Harry Piers, Esq.,
Curator Provincial Museum,
Halifax, N.S.

Figure 13 A. Letter to Harry Piers from Edward E. Prince dated 8 February 1916 concerning Tarpon (Museum No. 3034, Negative No.24,058).

EEP/W.

CANADA

DEPARTMENT OF THE NAVAL SERVICE

Ottawa May 2nd, 1916.

Fish.
Tarpon in Nova Scotia.

Ans 26 May 1916.

Dear Mr. Piers,-

In reply to your letter of the 24th ult., I think you are probably wise in expressing doubts as to the occurrence of a second specimen of the tarpon in Nova Scotia, and I regret that I cannot put my hands on any letters or papers which refer to this matter. I have an impression that more than one specimen was reported to this Department, and when I was on the coast with the Fisheries Advisory Board, attending the Lunenburg meeting, someone spoke to me about a specimen which I think had been got west of Halifax, but there may be some doubt about this.

Certainly the reference which Mr. Halkett gives in his check list 1913, must refer to the same specimen, and I do not know on what grounds he states that the species has been twice recorded, namely from Isaac's Harbour and from Harrigan Cove.

It would be safest therefore to withhold any reference to a second specimen, unless you are able to get more definite information before you publish your list next year.

Harry Piers, Esq.,
Curator Provincial Museum,
Halifax, N.S.

Yours faithfully,

Edward E. Prince

Dominion Commissioner

Figure 13 B. Letter to Harry Piers from Edward E. Prince dated 2 May 1916 concerning Tarpon (Museum No. 3034, Negative No. 23,456).

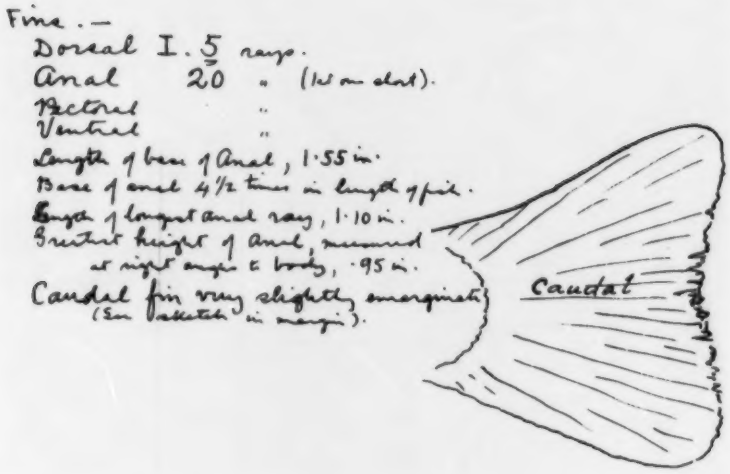


Figure 14. Line drawing of caudal fin of Brown Bullhead by Harry Piers (Museum No. 3560, Negative No. 12,440).

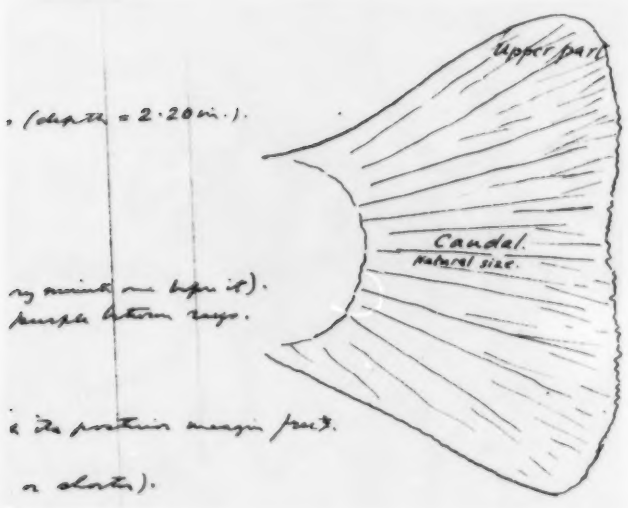


Figure 15. Line drawing of caudal fin of Brown Bullhead by Harry Piers (Museum No. 3570, Negative No. 12,446).

Friday. 6th Jany 1914.

Dear Mr Piers.

The fish in this Box was picked up about a year ago on the shore in Bedford Basin; it was quite fresh, the crows had picked out the eyes and bowels. I have had it in formaldehyde, ever since I got it.

Kindly let me know what it is, and its native habitat

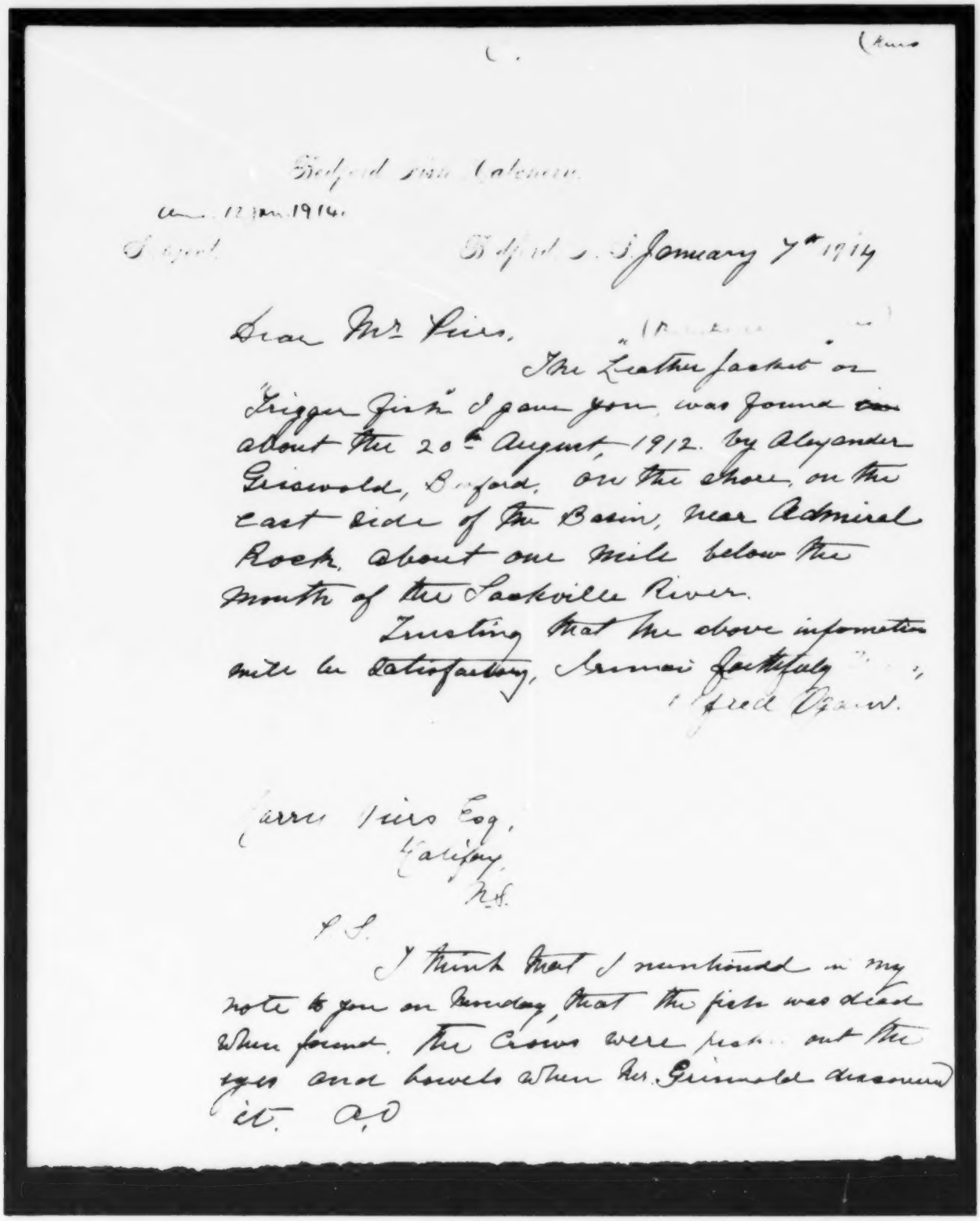
Oblige

Yours Truly

Alfred Ogden,

Bedford.

Figure 16. Letter to Harry Piers from Alfred Ogden dated 5 January 1914 concerning a Gray Triggerfish (Museum No. 4109, Negative No. 23,436).



Bedford Nova Scotia

Jan 12th 1914.

Bedford N.S. January 7th 1914

Dear Mr Piers.

The Leather jacket or Trigger fish I spoke you, was found about the 20th August, 1912. by Alexander Grimwold, Bedford, on the shore, on the east side of the Basin, near Admiral Rock, about one mile below the mouth of the Sackville River.

Trusting that the above information will be satisfactory, I remain Yours truly

Alfred Ogden.

Harry Piers Esq.
Halifax,
N.S.

P.S.

I think that I mentioned in my note to you on Monday, that the fish was dead when found. The crows were pecking out the eyes and bowels when Mr. Grimwold discovered it. A.O.

Figure 17. Letter to Harry Piers from Alfred Ogden dated 7 January 1914 concerning a Gray Triggerfish (Museum No. 4109, Negative No. 23,474).

GLACE BAY--THE LARGEST MINING TOWN IN CANADA. POPULATION 19,000 ... ONE COMPANY'S PAY ROLL IS $6,000,000 ANNUALLY.

THE
GLACE BAY GAZETTE
GAZETTE PUBLISHING CO., LTD.

BY FAR THE LARGEST CIRCULATION IN GLACE BAY AND VICINITY. DAILY AVERAGE IS 5,800 AND STILL GROWING

A. D. MACNEILL
MANAGING DIRECTOR

P. O. BOX 200

GLACE BAY, N. S.
CANADA

ans. 12 Jan. 1915.

6 Jan. 1915.

Acc. No. 4200. Common Sucker
Catostomus commersonii

Mr. Harry Piers,

Curator, Prov. Museum,

Halifax, N. S.

Dear Sir:

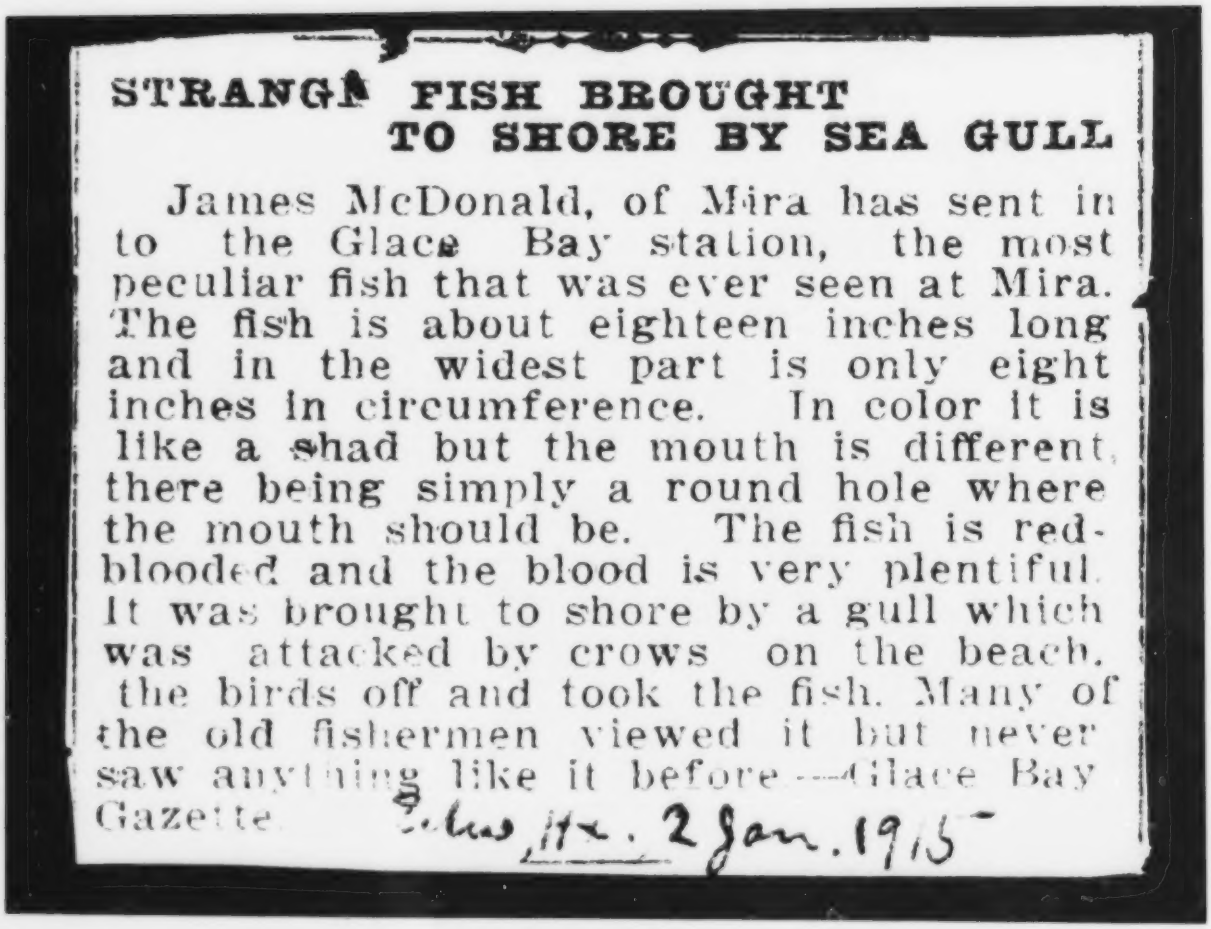
In answer to your letter of yesterday, I have secured the fish referred to and send it to you by express. An old sea captain, I am told, said that it is commonly known as a red mud-sucker, and that it is often found in fresh water but seldom in salt. It may possibly be common enough in river waters of Nova Scotia, though nobody who saw it here had ever seen one before. I shall be obliged and interested if you will write and let me know particulars when you have this fish identified, and also to learn if it is considered rare enough to be preserved in the museum.

Yours truly,

J. S. Macdonald

Editor Gazette.

Figure 18. Letter to Harry Piers from Editor, Glace Bay Gazette dated 6 January 1915 concerning a White Sucker (Museum No. 4200, Negative No. 23,439).



STRANGE FISH BROUGHT TO SHORE BY SEA GULL

James McDonald, of Mira has sent in to the Glace Bay station, the most peculiar fish that was ever seen at Mira. The fish is about eighteen inches long and in the widest part is only eight inches in circumference. In color it is like a shad but the mouth is different, there being simply a round hole where the mouth should be. The fish is red-blooded and the blood is very plentiful. It was brought to shore by a gull which was attacked by crows on the beach, the birds off and took the fish. Many of the old fishermen viewed it but never saw anything like it before.—Glace Bay Gazette.

Echo, Hx. 2 Jan. 1915

Figure 19. Copy of report on White Sucker from Mira, in Echo, Halifax, 2 January 1915 (Museum No. 4200, Negative No. 23,441).

~~4202~~
4200 Received 7 Jan 1915.

Catostomus commersonii (Lacépède)
= C. teres (Mitchell).

~~Brought to shore~~ Taken by a gull which was attacked by crows on the beach, Mira, C.B.; about 30 Dec. 1914.

James A. MacDonald, Mira (c.)
J. S. Macdonald, editor, Glace Bay Gazette, Glace Bay (a).

Total length, —— 16·40 cm.
Length, snout to base of caudal, — 13·75 cm.
Head —— 3·00 cm.
Head in length —— 4 1/2 times.

Dorsal, 12 (last 2 rays close together)
Ventral, 10
Anal about 8 (last two, although split to the base, may be actually a single ray at the insertion).

Scales in lat. line 62
~~a lat. line to point of dorsal~~
~~" " to ant.~~

1 specimen.

~~Jordan & Clarke~~, p. 178

Figure 20. Rough notes on White Sucker from Mira by Harry Piers (Museum No. 4200, Negative No. 23,440).

SMITHSONIAN INSTITUTION

UNITED STATES NATIONAL MUSEUM

WASHINGTON, D. C.

March 13, 1915.

Harry Piers , Curator,
Provincial Museum
Halifax, Nova Scotia, Canada,

Dear Sir:

In answer to your letter of the 25th ultimo, I would say that we have been recognizing on our North Atlantic Coast two species of Fistularia, the common form tabacaria and the rather uncommon form serrata. I shall take pleasure in going over this matter carefully for you next week, Providence permitting, and I may be able to think up a few additional "rangers" to your shores.

Kindly pardon my delay in this matter, but if you have ever had La Grippe as I have had it for the past several weeks, you will know how excusable such delay is.

Yours truly,

B. A. Bean.

Figure 21. Letter to Harry Piers from B. A. Bean dated 13 March 1915 concerning Coronetfish, Fistularia *(Museum No. 4227, Negative No.23, 479).*

LELAND STANFORD JUNIOR UNIVERSITY

OFFICE OF THE CHANCELLOR

Stanford University, Cal., April 10th., 1915.

Mr. Harry Piers ,

Provincial Museum,

Halifax, N.S.

Dear Mr. Piers:

I thank you for your description of your specimen, Fistularia. I will ask Prof. Snyder to compare it carefully with the Pacific specimens of the same species.

Very truly yours,

Figure 22. Letter to Harry Piers from David Starr Jordan dated 10 April 1915 concerning Coronetfish, Fistularia *(Museum No. 4227, Negative No. 23,478).*

LELAND STANFORD JUNIOR UNIVERSITY

DEPARTMENT OF ZOOLOGY

Stanford University California Apr. 15, '15.

Mr. Harry Piers
Curator Provincial Museum,
Halifax.

Dear Sir:

Doctor Jordan asked me to continue the correspondence with you regarding the identity of a specimen of Fistularia which you have.

I am not able to identify it from the very good description which you give, and I am afraid that I should not be able to do any better if the specimen were at hand, as we have no examples of the genus from the Atlantic in our collection.

You remark that it is not F. tabacaria, and you have also noted that the other species are from the Pacific, except as noted by Poey and Jones. Possibly these authors are right in their identification of the Atlantic species, and possibly examples from the Atlantic may prove to belong to another form, that is one different from F. tabacaria. If you could get some specimens in a good state of preservation perhaps they would settle the question beyond doubt.

Sincerely yours,

J. O. Snyder

Figure 23. Letter to Harry Piers from J. O. Snyder dated 15 April 1915 concerning Coronetfish, Fistularia *(Museum No. 4227, Negative No. 23,447).*

NOTE.—Only one subject to be referred to in one letter.

Write on one side of the paper only.

Name of Station [illegible]

Province of [illegible]

Post Office Address [illegible]

Date 25 April 1915

[illegible] 4 May 1915.

[illegible] sir

I got your letter of March 29 on the 22nd & find it must have been delayed somewhere concerning that fish or eel I caught in 1914 the color as near as I can tell was of light reddish brown shiney almost like glass fins shade darker here and there were dark spots on belly part of fish nose of fish light yellowish green long hairs in tuft of tail black.

do not know of any thing more.

I remain yours

W. J. Colp

4,000 Pds. 100 each—1911.

Figure 24. Letter to Harry Piers from R. J. Colp dated 25 April 1915 concerning Coronetfish, Fistularia *(Museum No. 4227, Negative No. 23,433).*

Fishes of N.S.

SMITHSONIAN INSTITUTION

UNITED STATES NATIONAL MUSEUM

WASHINGTON, D. C.

April 6, 1915.

J & E. 1715

Harry Piers, Curator,
Provincial Museum,
Halifax, Nova Scotia, Canada,

Dear Sir:

I thought you might be interested in the capture of a scup (Stenotomus chrysops), which was taken in Hall's Harbor, Bay of Fundy, Nova Scotia, August 21, 1911. Mr. Frank Wiltshire who sent it here for identification, with a statement that it was an unknown fish to the local fishermen. Total length of specimen, 9½ inches.

This seems to be an unusual occurrence; I think, in fact, an extension of the known range of this species.

Sincerely yours,

B. A. Bean

Barton A. Bean
Asst. Curator of Fishes,
U. S. N. M.

Figure 25 A . Letter to Harry Piers from Barton A. Bean dated 6 April 1915 concerning a Scup, Stenotomus chrysops, *captured in Halls Harbour, Bay Of Fundy, Nova Scotia on 21 August 1911 (Negative No's 23,480).*

SMITHSONIAN INSTITUTION

UNITED STATES NATIONAL MUSEUM

WASHINGTON, D. C.

April 20, 1915.

[illegible] Piers, Esq.,
Curator, Library, & Dy. Keeper of Records,
Provincial Museum,
Halifax, Nova Scotia, Canada.

Dear Mr. Piers:

In answer to yours of April 9, I would say that it is extremely doubtful that this Museum would relinquish the ownership of the Scup.

I feel sure, however, that you could obtain specimens by hook-and-line fishing around any old sunken wrecks that may possibly be found in Hall's Harbour.

Let me know what luck, if any, you have.

Cordially yours,
B. A. Bean.

May 20, 1915.

* Found this one-month old sheet under other papers this a. m. Sorry.

Yours B.A.B.

Figure 25 B. Letter to Harry Piers from Barton A. Bean dated 20 April 1915 concerning a Scup, Stenotomus chrysops, *captured in Halls Harbour, Bay Of Fundy, Nova Scotia on 21 August 1911 (Negative No. 23,476).*

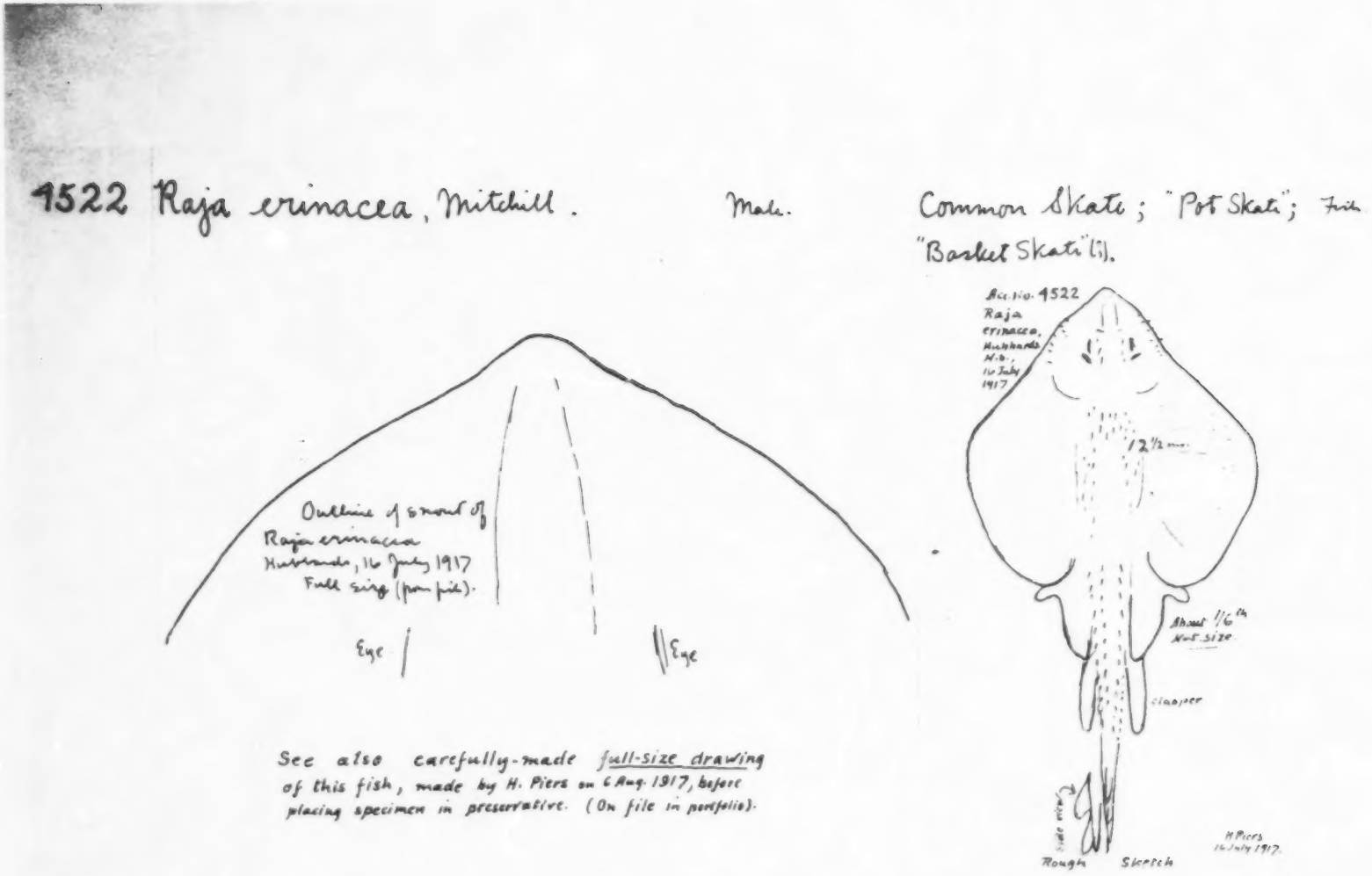

4522 Raja erinacea, Mitchill. Male.
Common Skate; "Pot Skate"; Fish "Basket Skate" (?).
Outline of ground of Raja erinacea Hubbards, 16 July 1917 Full size (pen pic).
Eye
Eye
See also carefully-made full-size drawing of this fish, made by H. Piers on 6 Aug. 1917, before placing specimen in preservative. (On file in portfolio).
Acc. No. 4522
Raja erinacea, Hubbards N.S. 16 July 1917
12½ ins.
About 1/6th Nat. Size
Claspers
Rough Sketch
H Piers 16 July 1917.

PLATE 28

Figure 26. Line drawing of Little Skate from Hubbards Cove by Harry Piers (Museum No. 4521, Negative No. 12,444).

PLATE 29

Scales :- 8 from lateral line to front of dorsal (exclusive of lat. line), 4 9 in lateral line, 5 from lateral line to vent (exclusive of lat. line). That is, scales 8-49-5. 18 (or 19, not more) scales before dorsal. Scales crossing abdomen behind ventrals.

Barbel practically obsolete (probably because a young fish). Dorsal fin inserted midway between nostril and base of caudal, and a little behind ventrals. Caudal fin forked for about half its length. Premaxillaries protractile.

Measurements.- Total length, 7·10 in.; length to base of caudal, 6·0 in; greatest depth, 1·35 in. (at front of dorsal); greatest thickness ·83 in.; length of head, 1·53 in.; diameter of eye, ·30 in. Dorsal fin, front height 1 in.; hinder height ·50 in.; base ·65 in. Ventral fin, front height ·82 in., hinder height ·47 in.; base ·25 in. Anal, front height ·80 in., hinder height ·43 in., base ·67 in. Pectoral, length ·90 in.

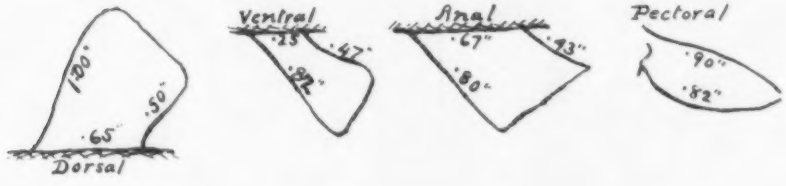


Figure 27. Sketch of fins of Fallfish by Harry Piers (Museum No. 4605, Negative No. 12,441).

Acc. No. 4901, Pier Museum of Art

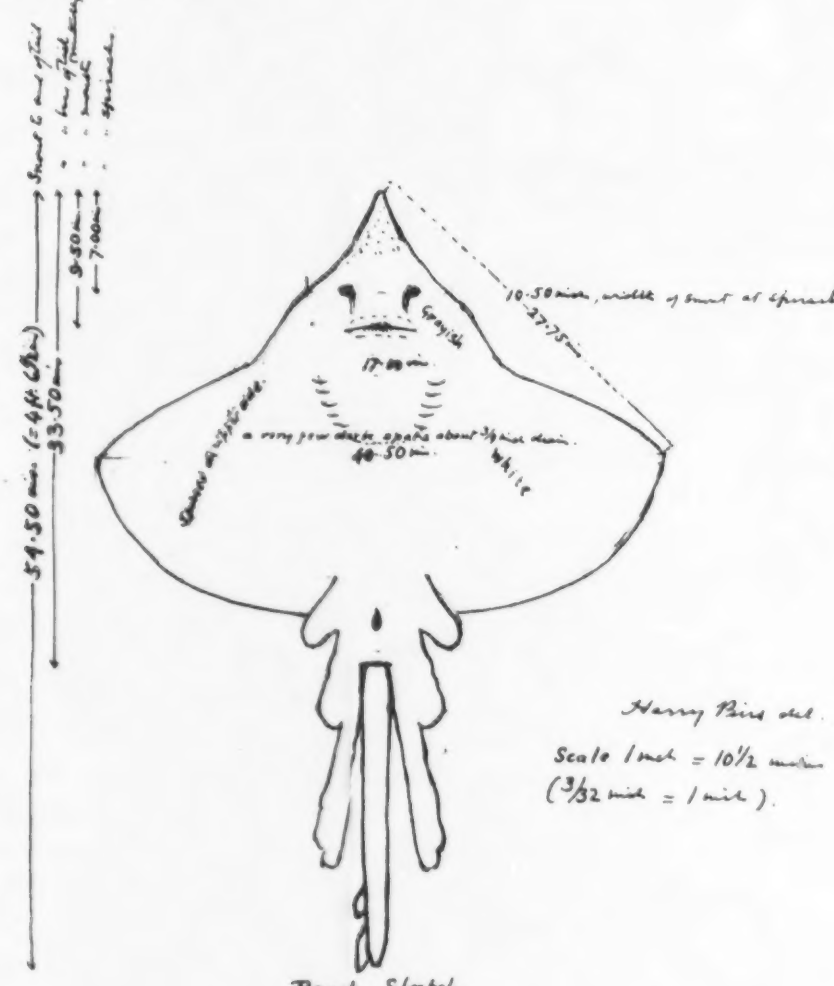
Raja laevis, Mitchill. Barn-door Skate. (Male adult)

Total length, 54·50 ins (= 4 ft. 6½ ins.). Teeth $\frac{35}{32}$,

Brought onto shore at Simon Dauphinee's, Hubbard's Cove, Hx. Co., N.S.;

28 July, 1920. Sketched, a.m., 28 July 1920, while fish was still alive.

Cyprus Dauphinee, collector.



Very few spines on middle of back of head. Row of spines on upper side of wings (as indicated on figure). Middle line of tail above with row of small hooked spines; another row each margin of tail.

Colour above, greyish-brownish. Colour beneath, greyish about underside of head; white on rest of underside of body, with a very few, irregularly scattered dark spots about 3/8 inch diameter.

Teeth: $\frac{35}{32}$; the upper ones in 5 to 12 rows, the lower in 6 to 12 rows.

Figure 28. Rough sketch of Barndoor Skate from Hubbards Cove by Harry Piers (Museum No. 4901, Negative No. 23,464).

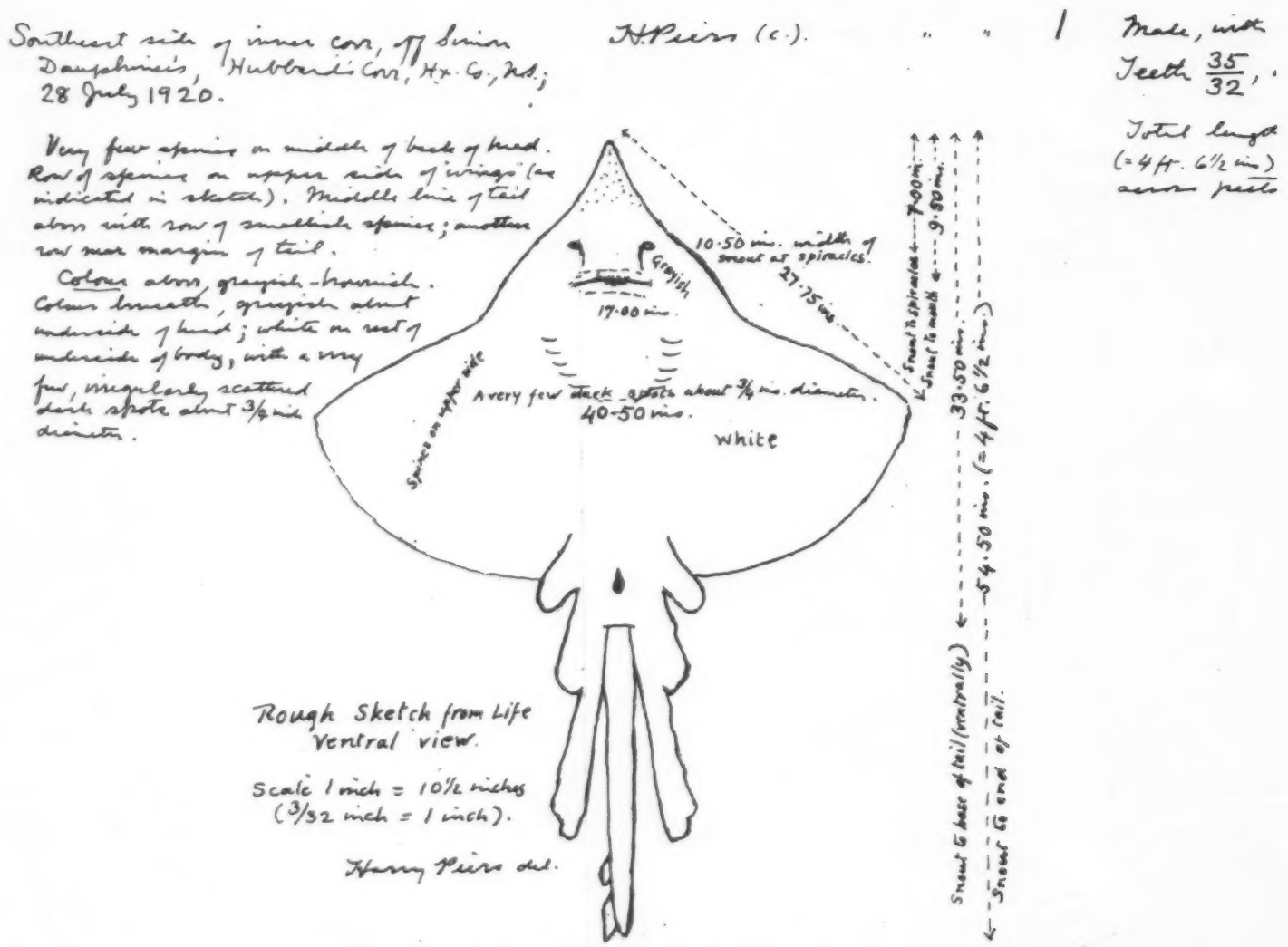

Southeast side of inner cove, off Simon Dauphinee's, Hubbards Cove, Hx. Co., N.S.; 28 July 1920.
H. Piers (c.).
1
Male, with Teeth 35/32.
Total length (= 4 ft. 6½ ins.) across pectorals
Very few spines on middle of back of head. Row of spines on upper side of wings (as indicated in sketch). Middle line of tail above with row of smallish spines; another row near margin of tail.
Colour above, greyish-brownish. Colour beneath, greyish about underside of head; white on rest of underside of body, with a very few, irregularly scattered dark spots about 3/4 ins. diameter.
10·50 ins. width of snout at spiracles.
27·75 ins.
Greyish
17·00 ins.
Spines on upper side
A very few dark spots about 3/4 ins. diameter.
40-50 ins.
White
Snout to spiracles 7·00 ins.
Snout to mouth 9·50 ins.
Snout to base of tail (ventrally) 33·50 ins.
Snout to end of tail. 54·50 ins. (= 4 ft. 6½ ins.)
Rough Sketch from Life
Ventral view.
Scale 1 inch = 10½ inches
(3/32 inch = 1 inch).
Harry Piers del.

Figure 29. Sketch of Barndoor Skate from Hubbards Cove by Harry Piers (Museum No. 4901, Negative No.12,445).

PLATE 31

PLATE 32

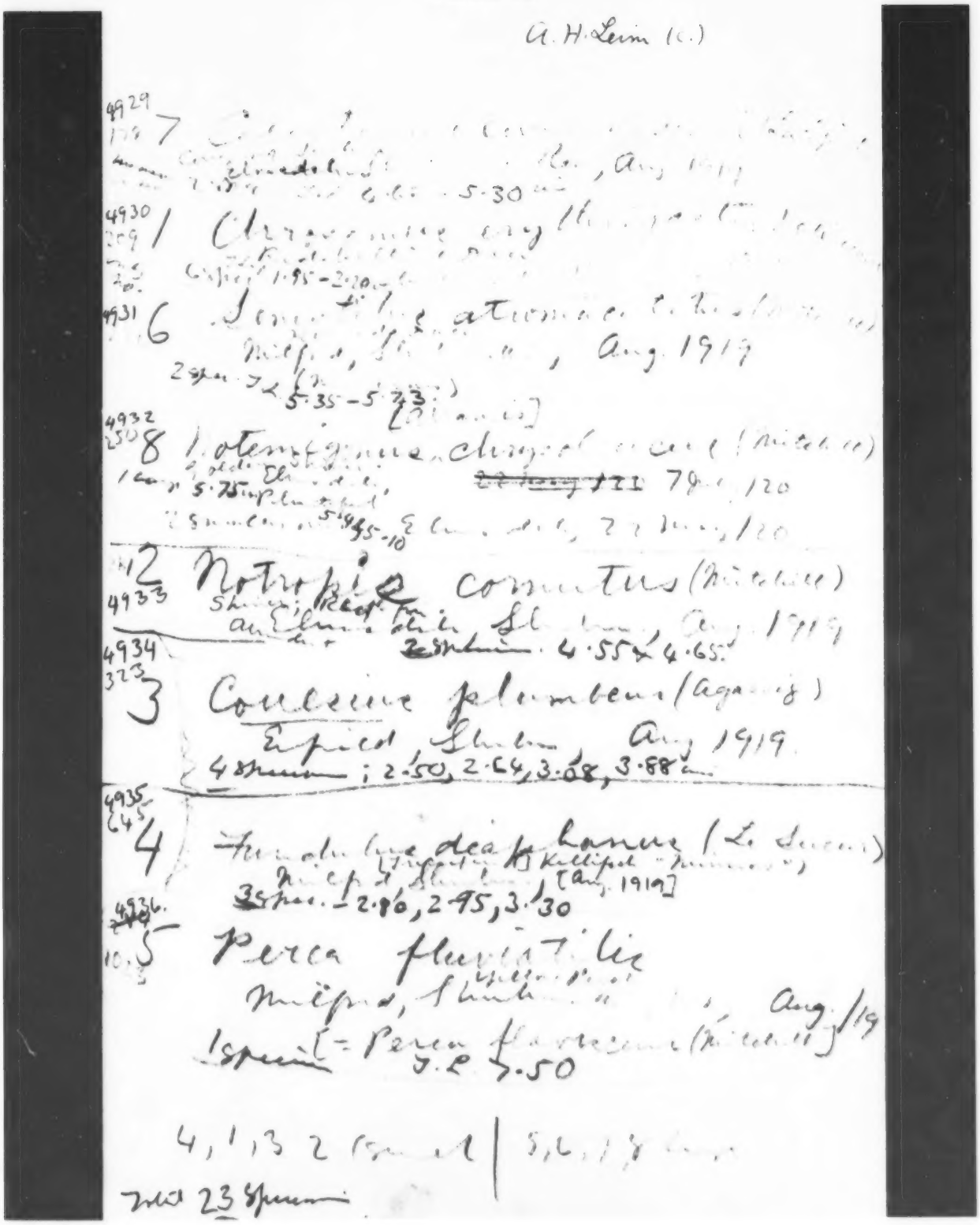
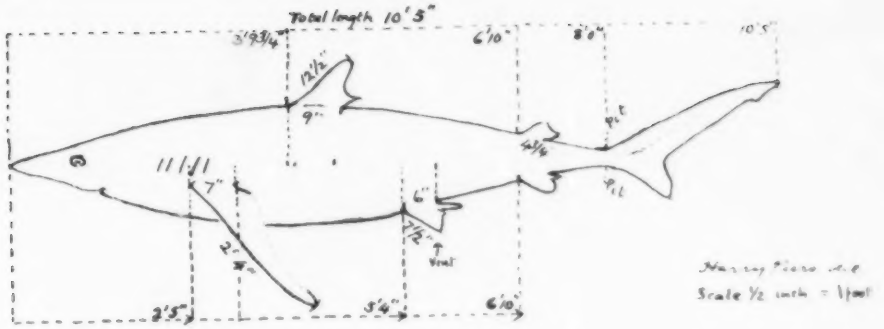


Figure 30. Rough laboratory notes by Harry Piers concerning fishes collected in Shubenacadie River by A. H. Leim (Museum No's. 4929 to 4936, Negative No. 23,483).



Total length, 10 ft. 5 ins.

Caught with hook & line, hauled with fish, by crew of No. 2 Pilot Boat (schooner), at entrance of Halifax Harbour, 4 miles southeast of Chebucto Head, Hx. Co., Nova Scotia; about noon, Sun., 10th Oct. 1920 (Only one seen during that trip, 4-11 Oct.). Presented by Pilot James G. Renner, No. 2 Pilot Boat, Halifax. Examined & measured by Harry Piers, 11 Oct 1920.
Colour above, dark bluish gray; below, white.

Attached to side of the shark's head by a sucking-fish, about 7 or 8 inches long, either Echeneis naucrates L. Sucking-fish, or Remora remora (L.), Remora.

Figure 31. Original sketch of Blue Shark from about 3 miles east of Chebucto Head (Museum No. 4941, Negative No. 23,498).

Caught with hook & line, hauled with fish, by crew of No. 2 Pilot Boat (schooner), at entrance of Halifax Harbour, 4 miles southeast of Chebucto Head, Hx. Co., Nova Scotia; about noon, Sun., 10 October 1920.

Crew of No. 2 Pilot Boat (c) 11 Oct.
Pilot James G. Renner, No 2 Pilot Boat, Halifax (d). 31

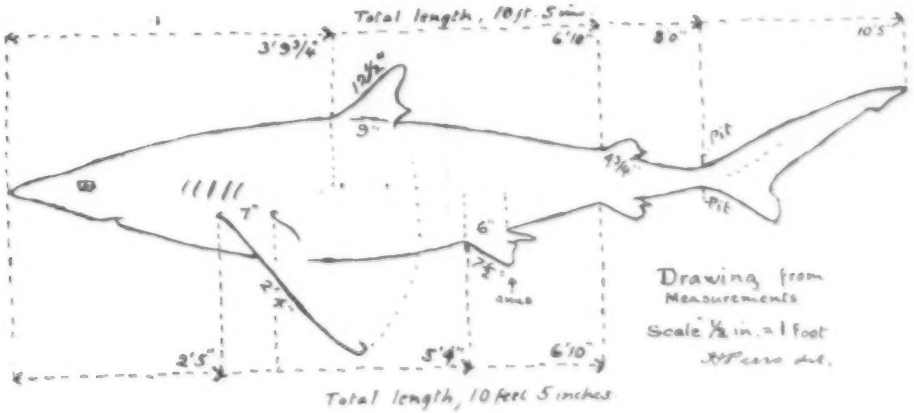


Figure 32. Sketch of Blue Shark from about 3 miles east of Chebucto Head (Museum No. 4941, Negative No. 12,442).

DEPARTMENT OF COMMERCE
BUREAU OF FISHERIES
WASHINGTON

ADDRESS ALL COMMUNICATIONS TO
COMMISSIONER OF FISHERIES
WASHINGTON, D. C.

IN REPLY REFER TO FILE

October 8, 1920.

F — 16.10.1920.

Dr. Harry Piers,

Director, Provincial Museum,

N. S. Technical College,

Halifax, Nova Scotia, Canada.

Dear Sir:

In reply to your letter of October 4, you are informed that Mr. Radcliffe is leaving this office for an absence of about six weeks. If you will forward the shark jaws to this office, the Bureau will be pleased to have an examination made of them on his return. Mr. Radcliffe's work was mainly with forms occurring farther southward and the Bureau can not promise you that he will be able to make positive identification in each case. The material will be returned to you in due season.

Mr. Radcliffe is sending you a personal copy of his report on the sharks and rays of Beaufort, N. C., as requested.

Very truly yours,

H.F. Moore

Acting Commissioner.

Figure 33. Correspondence to Harry Piers from H. F. Moore dated 8 October 1920 concerning the identification of shark jaws (Museum No.4941, Negative No. 23,460).

GOVERNMENT OF NOVA SCOTIA.

Provincial Museum.
Provincial Science Library.
Public Records of Nova Scotia.
Govt. Mineral Exhibit, Prov. Exhibition.
Harry Piers, Curator, Librarian, & Dy. Keeper of Records.

H.

PROVINCIAL MUSEUM.
N. S. TECHNICAL COLLEGE.
HALIFAX, NOVA SCOTIA CANADA.

26 October 1920

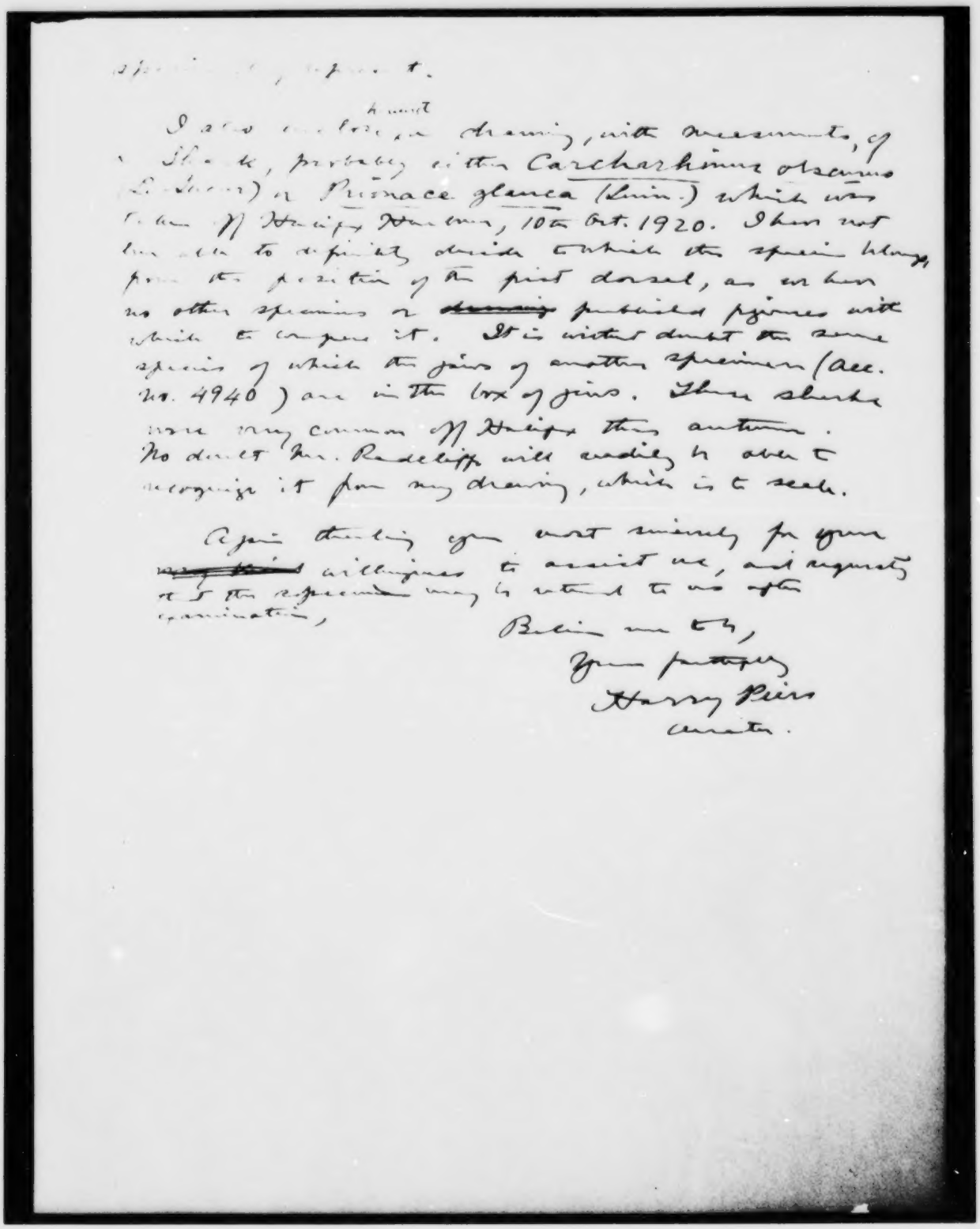
H. F. Moore, Esq^r.,
Acting Commissioner,
Bureau of Fisheries,
Washington, D.C.,
U.S.A.

Dear Sir,

In further reference to yours of the 8th inst. in which you very kindly say that your Bureau will be pleased to have Mr. Louis Radcliffe examine and ~~determine~~ identify, as far as possible, several genera of Sharks which we have in the Museum, and about whose identity we are not sure; I beg to say that I am this day sending to you, by express, charges prepaid, a box containing 8 Shark genera, to which I have added 7 genera of Rays.

We would be very much obliged to you and Mr. Radcliffe if the latter would examine these on his return, and let us know his opinion as to their ~~identification~~ specific identity. Many of them were taken on the coast of Nova Scotia, but as most of them were not seen by us in the fresh, we are doubtful as to the

Figure 34 A. Page one of draft correspondence to H. F. Moore by Harry Piers dated 26 October 1920 concerning the identification of shark jaws (Museum No. 4941, Negative No.23,459).



Specimen, page 2.

I also enclose a drawing, with measurements, of a Shark, probably either Carcharhinus obscurus (Les.) or Prionace glauca (Linn.) which was taken off Hastings, Sussex, 10th Oct. 1920. I have not been able to definitely decide which the species belongs from the position of the first dorsal, as we have no other specimens or drawings published figures with which to compare it. It is wished that the same species of which the jaws of another specimen (Acc. No. 4940) are in the box of jaws. These sharks were very common off Hastings this autumn. No doubt Mr. Radcliffe will readily be able to recognize it from my drawing, which is to scale.

Again thanking you most sincerely for your ~~very kind~~ willingness to assist us, and regretting that the specimen may be returned to us after examination,

Believe me to be,

Yours faithfully

Harry Piers

Curator.

Figure 34 B. Page two of draft correspondence to H. F. Moore by Harry Piers dated 26 October 1920 concerning the identification of shark jaws (Museum No. 4941, Negative No. 23,457).

D

DEPARTMENT OF COMMERCE

BUREAU OF FISHERIES

WASHINGTON

IN REPLY REFER TO FILE

ADDRESS ALL COMMUNICATIONS TO
COMMISSIONER OF FISHERIES
WASHINGTON, D. C.

December 7, 1920

Skins & Jays

C. - 16 Dec. 1920.

Mr. Harry Piers, Curator,
Provincial Museum,
N. S. Technical College,
Halifax, Nova Scotia.

Dear Sir:

Referring to previous correspondence regarding the identification of the shark and skate jaws which you sent in for examination, I have to advise you that they have been identified, with the exception of No. 6 of the shark series, as follows:

Shark Jaws.

1. Lamna cornubica. Garman uses the name Isurus nasus (Bonnaterre).

2. Probably Isurus; it corresponds closely with Garman's description of Isurus punctatus (Storer). The teeth are rather more curved than those shown in Garman's illustration.

3, 4, 5. Prionace glauca (Linnaeus). Garman uses the name Galeus glaucus Rondelet.

6. Cannot identify.

Concerning Nos. 7 and 8, Mr. Radcliffe says that he has never acquired a sufficiently large series of the jaws of Carcharhinus obscurus, milberti, and commersonii to be able to identify those species with certainty on the characters of the teeth alone. In his opinion those submitted by you, particularly the smaller, do not conform closely to milberti as it is known to him. Geographically, he would expect them to be obscurus, but the smaller very closely resembles specimens of commersonii examined by him.

Skate Jaws.

No. 4521. Correctly identified as Raja ocellata Mitchill, but Garman uses the name R. diaphanus Mitchell, as the former name was preoccupied for another species, R. ocellata Russell, 1803.

No. 4901. Correctly identified as Raja laevis Mitchill, but Garman uses the name Raja stabuliformis Garman, as R. laevis applies to a closely allied but distinct European species. This example is a male.

Figure 35 A . Page one of two page letter to Harry Piers from H. F. Moore dated 7 December 1920 concerning the identification of shark jaws (Museum No. 4941, Negative No. 23,454).

Two other jaws, and three specimens detached from the jaws, all unlabelled, appear to be females of the same species (Raja laevis).

The specimens are being returned to you by parcel post.

Very truly yours,

H.F. Moore

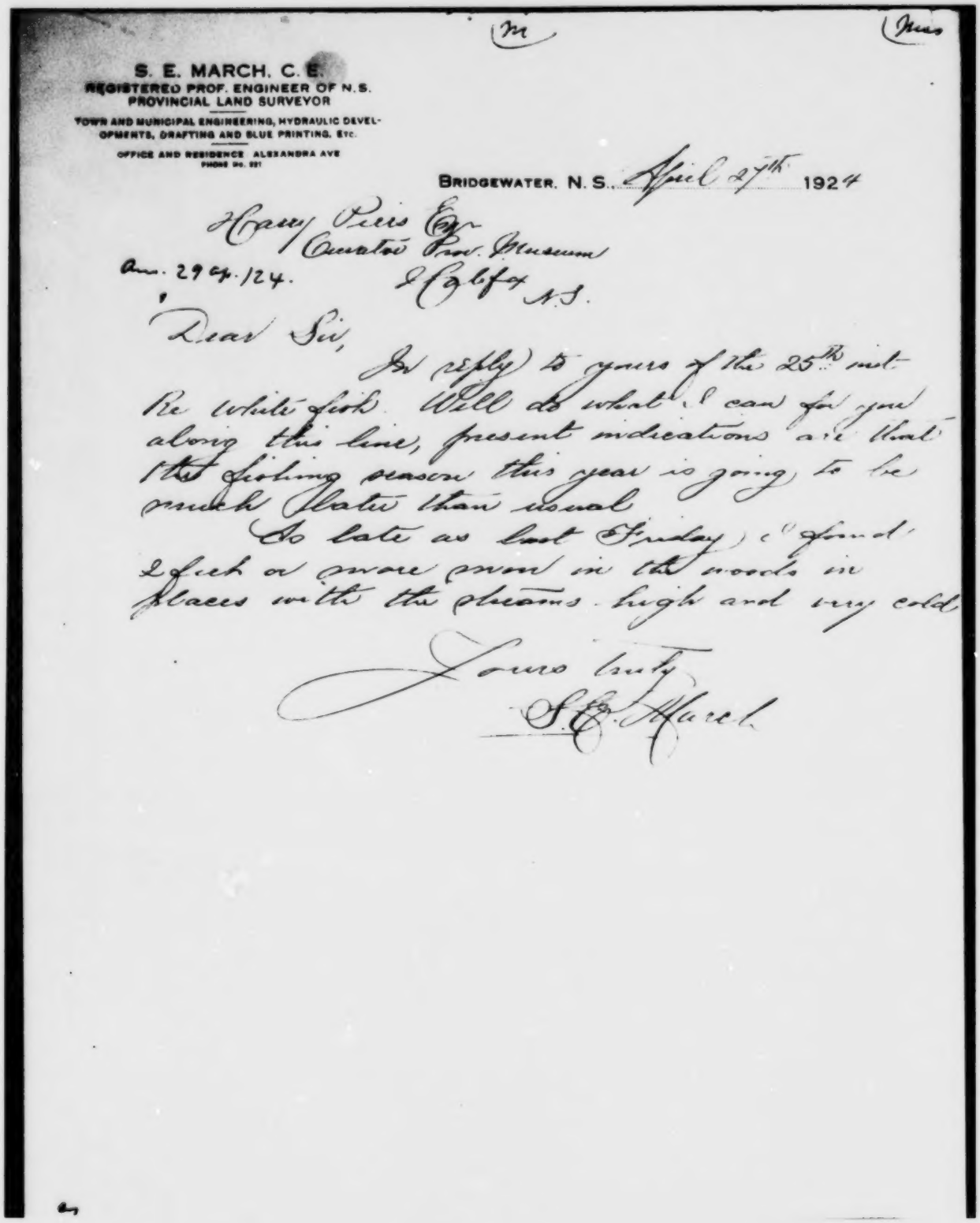
Deputy Commissioner.

✓

W.W.

Figure 35 B. Page two of two page letter to Harry Piers from H. F. Moore dated 7 December 1920 concerning the identification of shark jaws (Museum No. 4941, Negative No. 23,453).

Figure 36. Photograph of Thresher Shark from Minas Channel (Museum No. 5152, Negative No. 23,788).



S. E. MARCH, C. E.
REGISTERED PROF. ENGINEER OF N.S.
PROVINCIAL LAND SURVEYOR

TOWN AND MUNICIPAL ENGINEERING, HYDRAULIC DEVELOPMENTS, DRAFTING AND BLUE PRINTING, Etc.

OFFICE AND RESIDENCE ALEXANDRA AVE
PHONE No. 221

BRIDGEWATER, N. S. April 27th 1924

Harry Piers Esq
Curator Prov. Museum
Ans. 29 ap. 124. Halifax N.S.

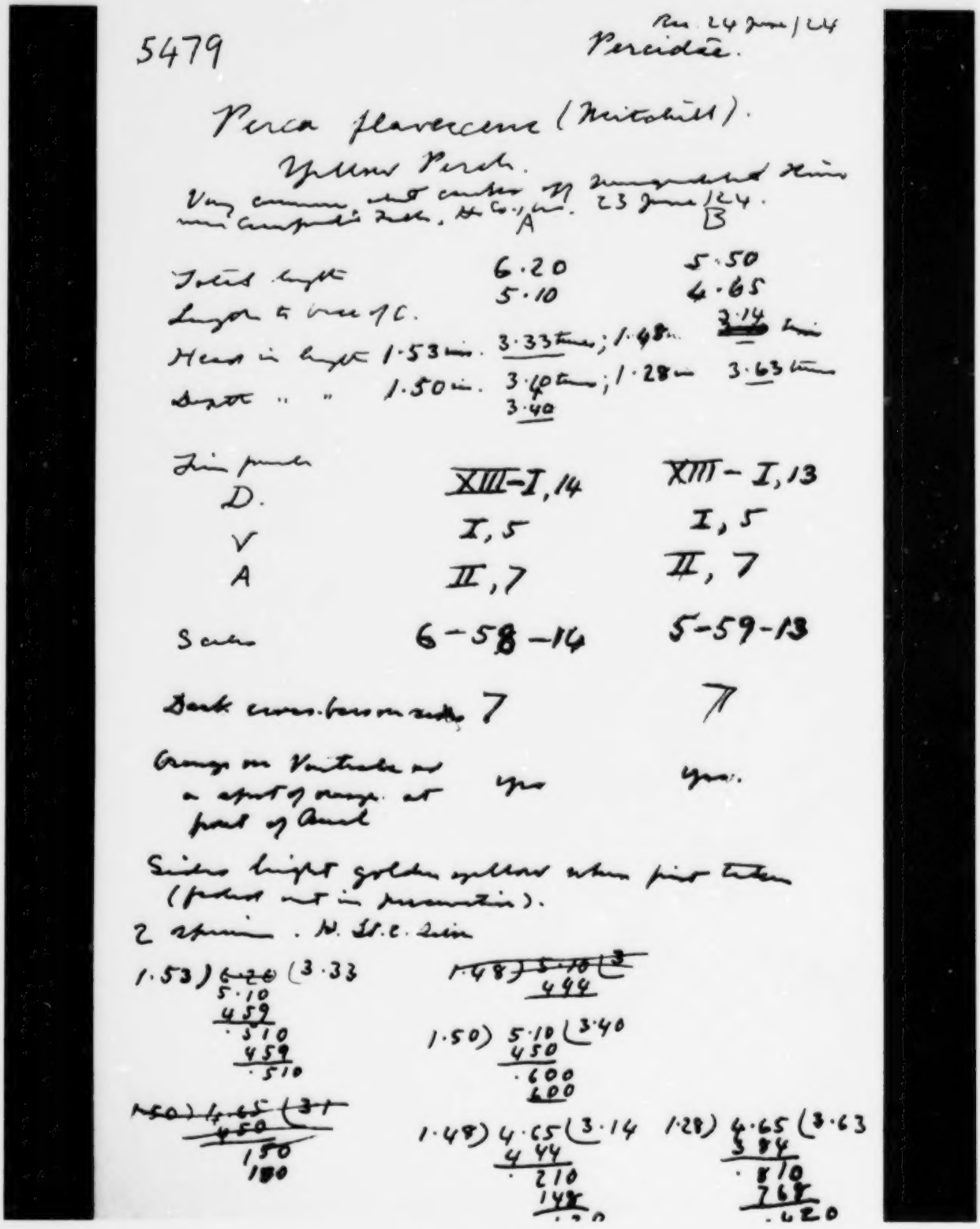
Dear Sir,

In reply to yours of the 25th inst Re white fish. Will do what I can for you along this line, present indications are that the fishing season this year is going to be much later than usual

So late as last Friday I found such a snow storm in the woods in places with the streams high and very cold

Yours truly
S E March

Figure 37. Letter to Harry Piers from S. E. March dated 27 April 1924 concerning Atlantic Whitefish from Millipsigate Lake (Museum No. 5225, Negative No. 23,449).



5479

Rec. 24 June/24

Percidae.

Perca flavescens (Mitchill).

Yellow Perch.

Very common and caught in numbers in small creek, Musquodoboit. A. 23 June/24. B.

	A	B
Total length	6.20	5.50
	5.10	4.65
Length to base of C.		3.14
Head in length	1.53 in. 3.33 times;	1.48 in.
Depth " "	1.50 in. 3.40 times;	1.28 in. 3.63 times
	3.40	

	A	B
Fin rays D.	XIII-I, 14	XIII-I, 13
V	I, 5	I, 5
A	II, 7	II, 7
Scales	6-58-14	5-59-13
Dark cross-bars on side	7	7
Groups on Vertebrae or a spot of pigment at point of Anal	yes	yes.

Sides bright golden yellow when first taken (faded out in preservative).

2 specimens. N. S. C. Seine

1.53) 6.20 (3.33
5.10
459
·510
459
·510

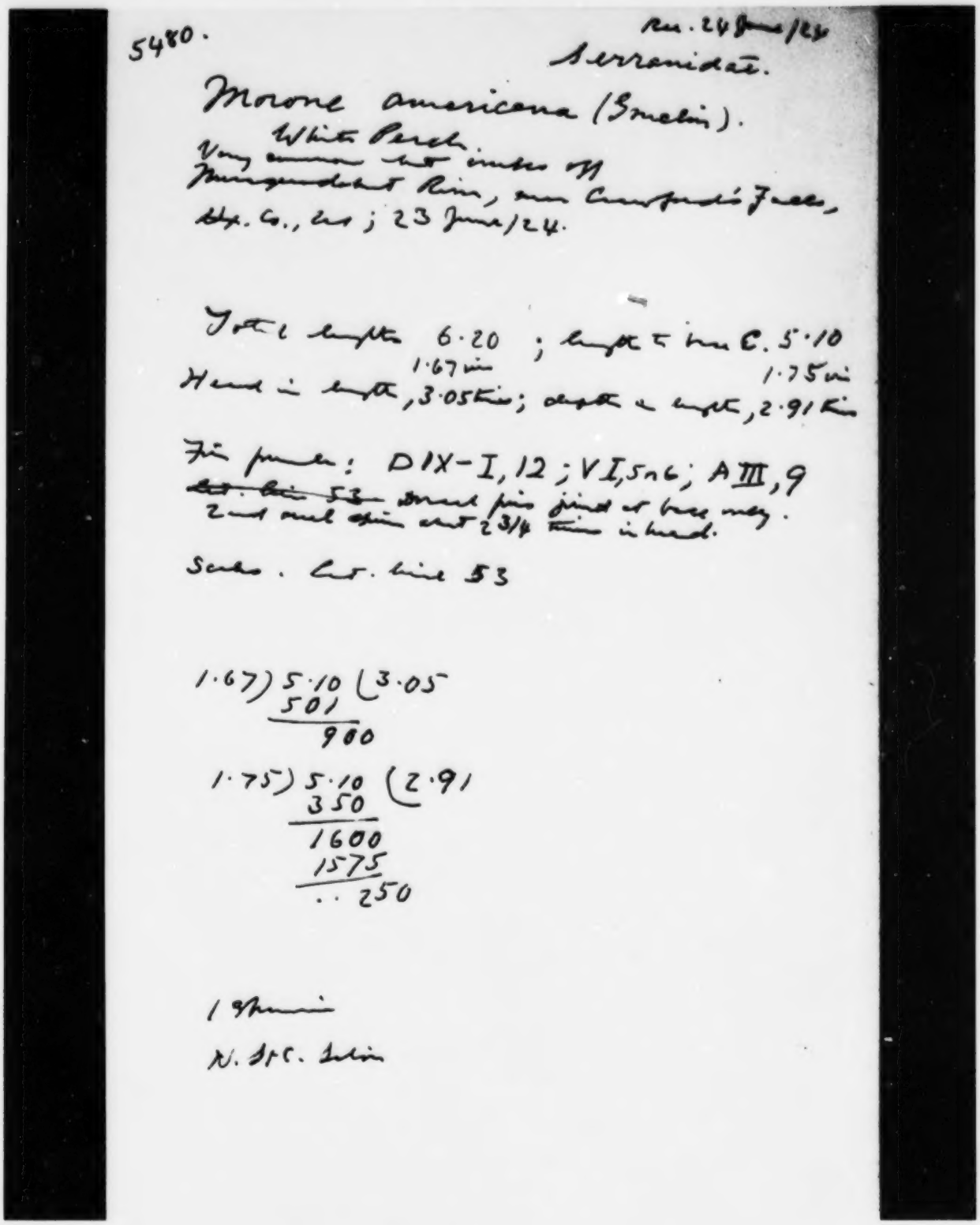
1.48) 5.10 (3
444

1.50) 5.10 (3.40
450
·600
600

1.48) 4.65 (3.14
444
·210
148
·62

1.28) 4.65 (3.63
384
·810
768
·420

Figure 38. Rough laboratory notes by Harry Piers on Yellow Perch from creeks off Musquodoboit River (Museum No. 5479, Negative No. 23,500).



5480.

Rec. 24 June/24

Serranidae.

Morone americana (Gmelin).

White Perch.

Very common but inside off
Musquodoboit River, near Campbell's Falls,
Hfx. Co., Can; 23 June/24.

Total length 6.20 ; length to base C. 5.10
Head in length, 3.05 in 1.67 in; depth in length, 2.91 in 1.75 in

Fin formula: D IX-I, 12 ; V I,5 n 6; A III, 9
~~Lat. line 53~~ Second pair joined at base only.
2nd anal spine about 2 3/4 in head.

Scales. Lat. line 53

1.67) 5.10 (3.05
501
900

1.75) 5.10 (2.91
350
1600
1575
25.0

1 Specimen
N. Sp. C. Salmo

Figure 39. Rough laboratory notes by Harry Piers on White Perch from creeks off Musquodoboit River (Museum No. 5480, Negative No. 23,493).

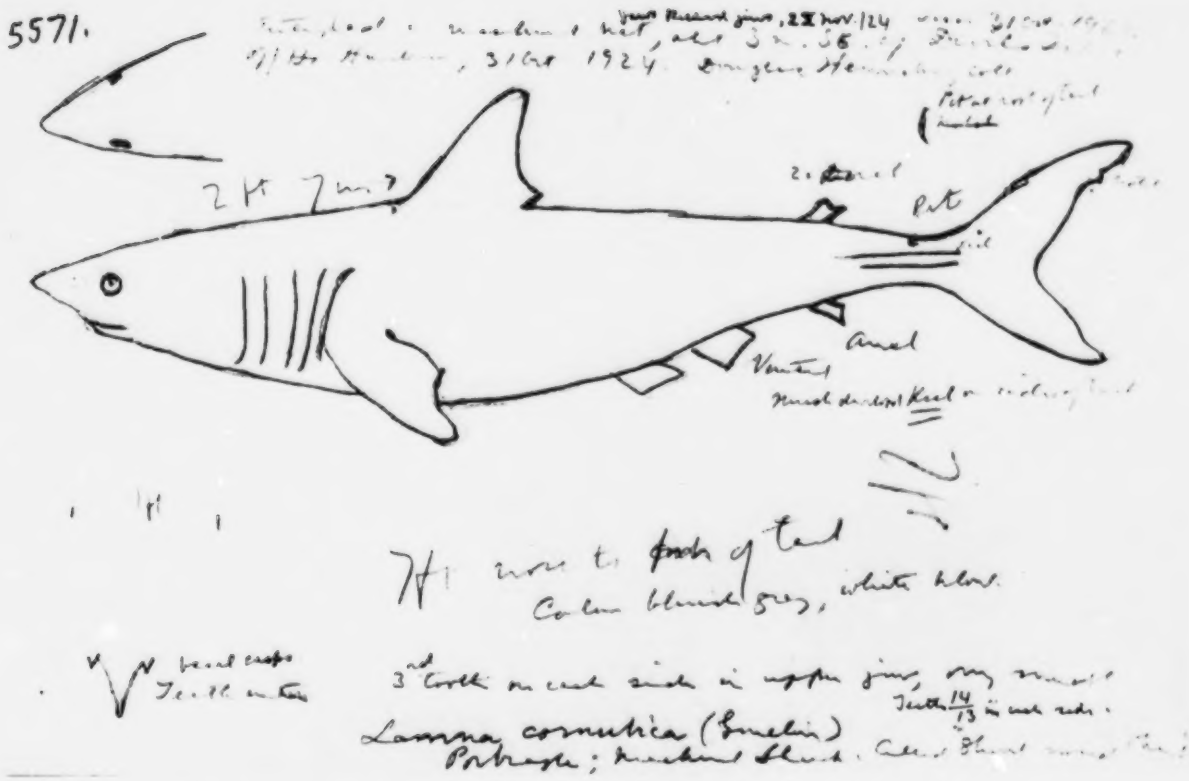


Figure 40. Rough sketch of Porbeagle from about 3 miles southeast off Devil's Island by Harry Piers (Museum No. 5571, Negative No. 23,481).

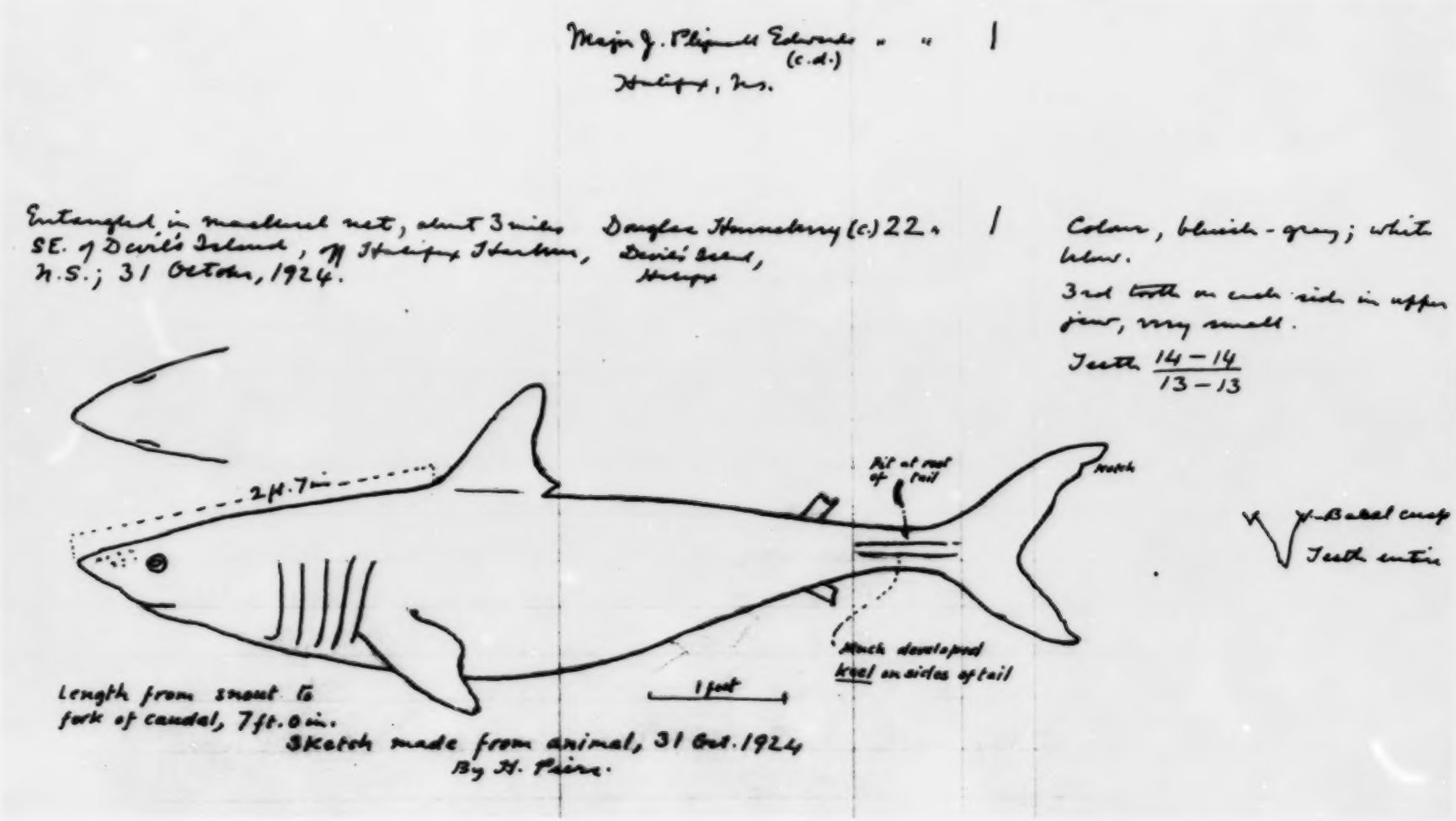
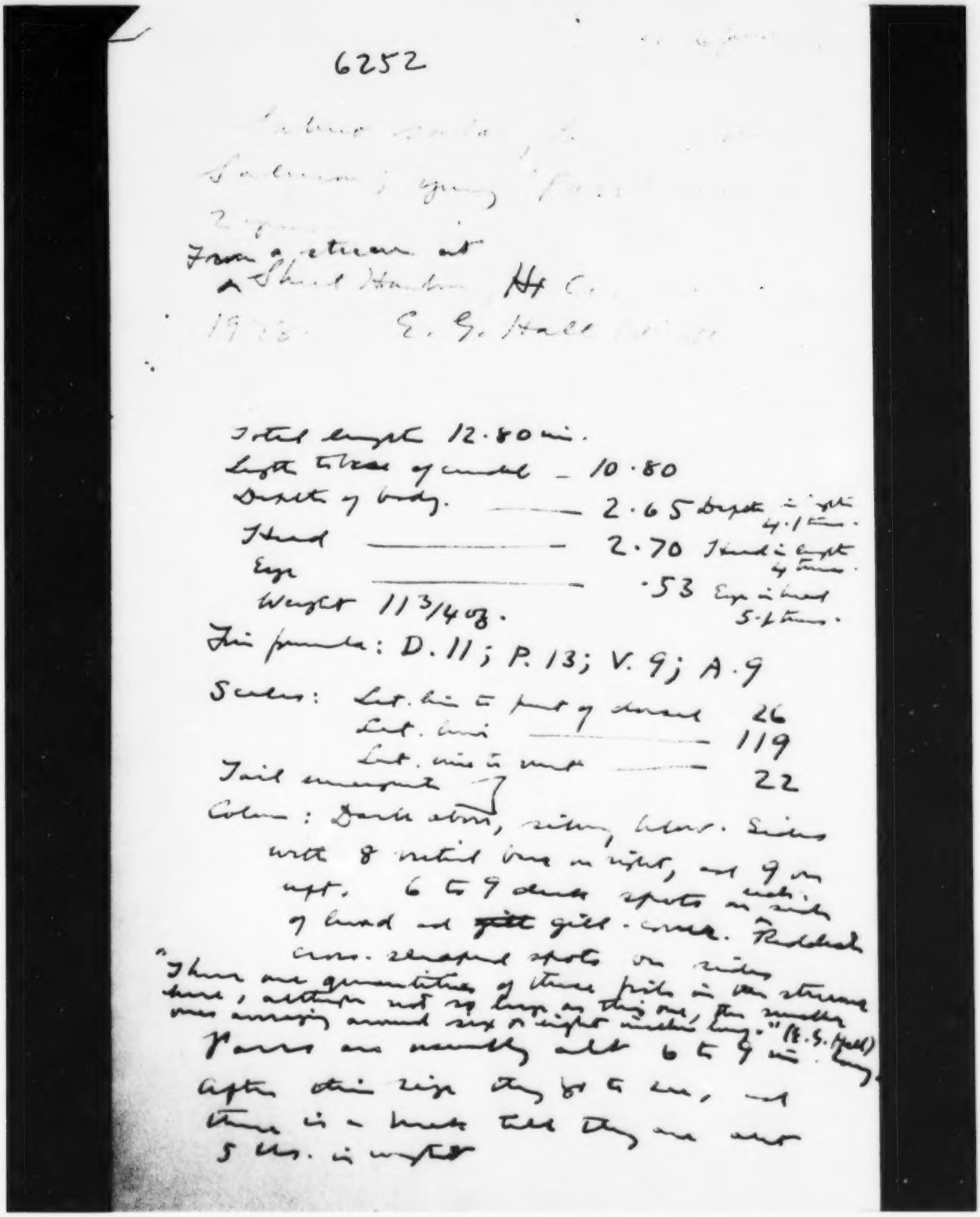

Major J. Philpott Edwards (c.d.) " " 1
Halifax, N.S.
Entangled in mackerel net, about 3 miles SE. of Devil's Island, off Halifax Harbour, N.S.; 31 October, 1924.
Douglas Hennebery (c.) 22 " 1
Devil's Island, Halifax
Colour, bluish-grey; white below.
3rd tooth on each side in upper jaw, very small.
Teeth 14-14 / 13-13
PLATE 44
2ft. 7in.
Pit of root of tail
notch
Length from snout to fork of caudal, 7ft. 0in.
1 foot
Much developed keel on sides of tail
V-Basal cusp
Teeth entire
Sketch made from animal, 31 Oct. 1924
By H. Piers.

Figure 41. Sketch of Porbeagle from about 3 miles southeast off Devil's Island by Harry Piers (Museum No. 5571, Negative No. 13,533).



6252

From a stream at
Sheet Harbour N.S.
1938 E. G. Hall

Total length 12.80 in.
Length to base of caudal — 10.80
Depth of body. —— 2.65 Depth in length 4.1 times.
Head —— 2.70 Head in length 4 times.
Eye —— .53 Eye in head 5.1 times.
Weight 11 3/4 oz.

Fin formula: D. 11; P. 13; V. 9; A. 9

Scales: Lat. line to base of dorsal 26
Lat. line —— 119
Lat. line to anal —— 22
Tail emarginate

Colour: Dark above, silvery below. Sides with 8 vertical bars on right, and 9 on left. 6 to 9 dark spots on side of head at gill. Rounded cross-shaped spots on sides.

"There are generalities of these fish in the stream here, although not so large as this one, the smaller ones running around six or eight inches long." (E. G. Hall)

Parrs are usually old 6 to 9 in. long.

After this size they go to sea, and there is a break till they are over 5 lbs. in weight

Figure 42. Rough notes on Atlantic Salmon from stream at Sheet Harbour by Harry Piers (Museum No. 6252, Negative No. 23,484b).

PLATE 46

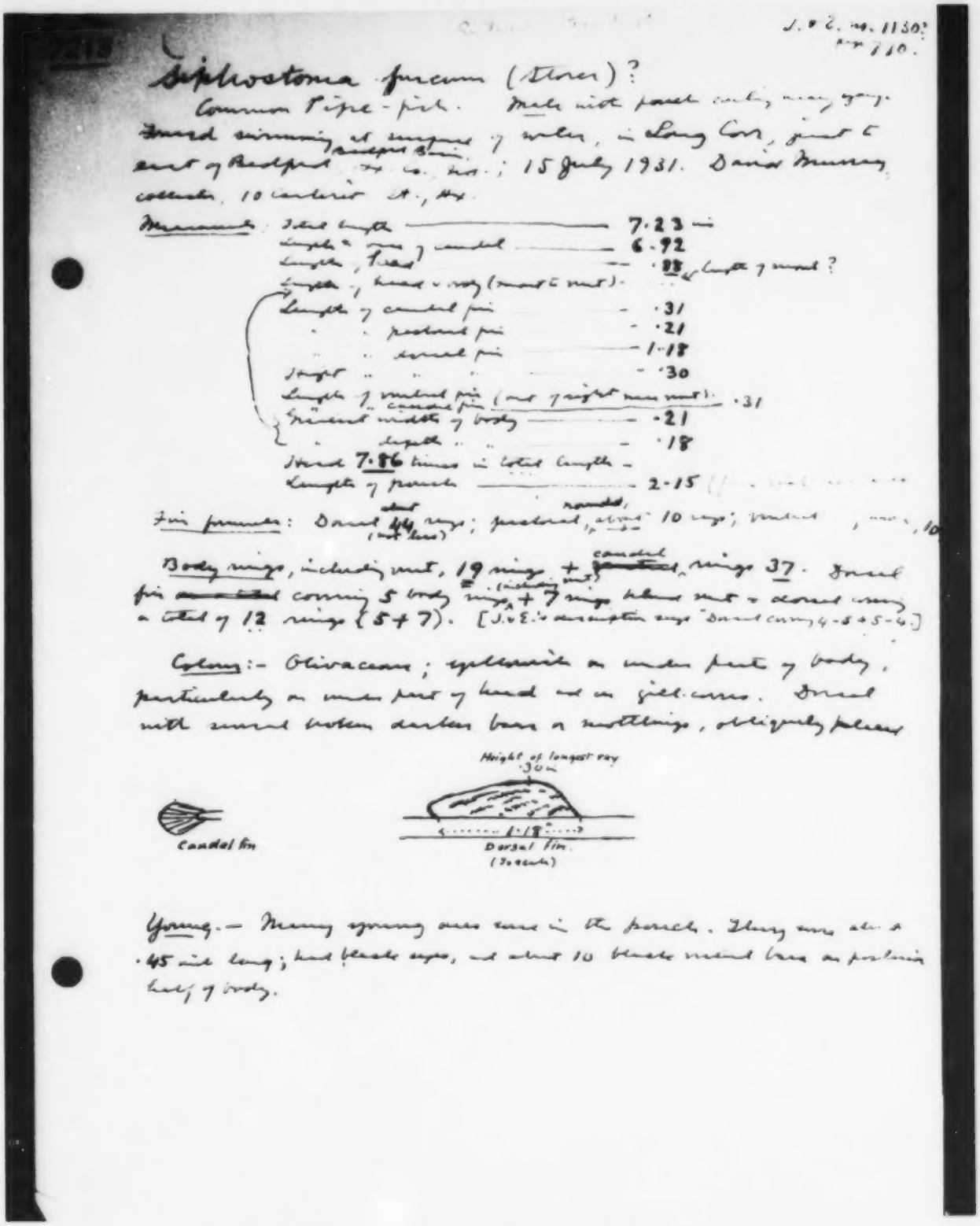


Figure 43. Rough notes on Northern Pipefish from Bedford Basin by Harry Piers (Museum No. 7213, Negative No. 23,447).

Swimming at surface of water, in Long Cove, just to east of Bedford, Bedford Basin, Hx. Co., N.S.; 15 July 1931.

David Murray (c.d) 17 July 1
Carleton St.,
Halifax

Figure 44. Sketch of Northern Pipefish from Bedford Basin by Harry Piers (Museum No. 7213, Negative No. 23,844).

Acc. No

7214 *Siphostoma fuscum* (Storer)?

Common (?) Pipe-fish. Male with pouch filled with eggs. Found in nearly vertical position at surface of water, near Harbour Commissioner's office, south terminal piers, Halifax, N.S.; a.m., 23 July 1931.

Seen by undulating movement of dorsal fin.

Measurements: Total length ——— 754 (shrunk to 7·50 in. by next day).
Length to base of caudal ——— 7·29
Head ——— ·85 Snout to eye — ·46
Diameter of eye ——— ·09
Snout to vent ——— 3·08
Body (opercle to vent) ——— 2·23
Tail (to base of caudal) ——— 4·21
Greatest depth of body (subdorsal fin) ·17
" width " " ——— ·16
Length of pouch ——— 2·12
Head in length (base of caudal, gives 8·58 times
Snout to ventral base about ——— 2·53
Length of dorsal fin ——— 1·20
Height " " (longest ray) ·28
Length of pectoral fin ——— ·17 (rounded)
" " anal fin ——— ·08 (of about 3 rays)
" " caudal fin ———

Fin formula: Dorsal, 42 rays (count); pectoral, 13; caudal, 10 (count rays of caudal); ventral, minute, about 3;

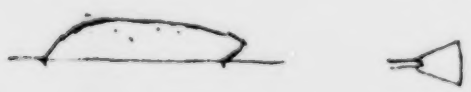
Body rings (including vent), 19 rings + caudal rings 36; making a total of 55 rings.

Dorsal fin covering 4 3/4 body rings + 6 caudal rings behind vent, = a total of 10 3/4 rings. [Jordan & Evermann say dorsal covering 4-5 + 5-6 rings]

Colour: Upper parts, and also under side of tail behind pouch, olivaceous; darker at junction of rings. (Skin olivaceous colour and sprinkled with fine black punctation the dry after big part has preserved.) Under parts from anterior end of opercle and including opercle, to vent, "pale greenish-yellow" a light citron-yellow, with a lustrous appearance as if there was a silvery membrane. Plate at base of pectoral, silvery.

Pouch light clay-colour; the reddish tint probably due to the reddish-yellow colour of the mass of eggs under the skin of the pouch.

Dorsal fin obscurely banded obliquely; and with several (8) fine black dots or punctations. Pectoral fins pale. Caudal fin dark olivaceous.



Eggs. - Pouch filled with eggs arranged in about 6 rows, "staggered". Each egg globular, ·03" in diameter; colour reddish-yellow.

Figure 45. Rough notes on Northern Pipefish from Halifax Harbour by Harry Piers (Museum No. 7214, Negative No. 23,448).

Fin formula: Dorsal, 42 rays (correct); pectoral, 13; ventral, minute, about 3; caudal, 10.

Rings: body rings (including nuch), 19 rings + caudal rings 36; making a total of 55 rings.

Dorsal fin covering 4 3/4 body rings + 6 caudal rings. That is, the dorsal covers a total of 18 3/4 rings. [Jordan & Evermann say "Dorsal covering 4-5 + 5-4 rings"; that is a total of only 9 rings].

Colour (careful description from living fish, 23 July): Upper parts, and also under side of tail behind pouch, olivaceous; darker at junction of rings. (This olivaceous colour was sprinkled with fine black punctations the day after the specimen was put into formalin.) Under part of snout pale. Under parts from anterior end of pouch and including pouch, to vent, "pale greenish-yellow" or light citron-yellow, with a lustrous appearance as if there was a silvery under-colour. Plate at base of pectoral, silvery.

Pouch light clay-colour; the reddish tint probably due to the reddish-yellow colour of the mass of eggs under the skin of the pouch.

Dorsal fin obscurely banded obliquely; and with several (8) fine black dots or punctations. Pectoral fins pale. Caudal fin dark olivaceous.

Eggs: Pouch filled with eggs arranged in about 6 rows, "staggered" (⁘) so as to pack closely. Each egg globular, .03 inch diameter; colour reddish-yellow.

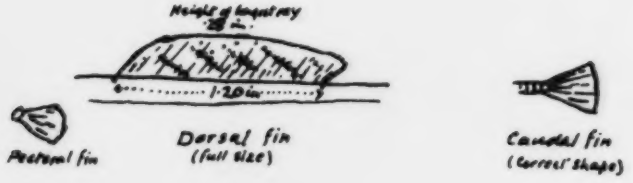


Figure 46. Sketch of Northern Pipefish from Halifax Harbour by Harry Piers (Museum No. 7214, Negative No. 23,856).

Found in nearly vertical position at surface of water, near Harbour Commissions pier, south terminal pierre, Halifax, N.S.; A.M. 23 July 1931. Given by undertaking assistant of above pier.

Edward B. F. Pierre (i.e.) 23 July 1931 Halifax, N.S.

J.N.S. A 770 to 11302

DATA REGARDING SPECIMENS IN PROV. MUSEUM OF N.S. —

Museum No.	Sex	Locality & date	Total length	Body & Caudal Rings	Dorsal (on body & caudal rings)	Fin rays D	P	V	C
243a	M	Cow Bay, Hx. Co.; 17 Aug 1901.	5·85	19+35	5½+5 10½	42	..	..	..
243b	M	.. ..	5·60	19+38	7+3¾+10¾	42	..	..	..
2169	F	Whycocomagh, Inv. Co., July 1903.	6·95	19+35	4½+5½+9½	39	13?	3?	
3369	F	Malagash Head Lor, Hx. 11 May 1909	7·32	19+36	5+6⅜ 11⅜	40	14	5	10
3558	F	Dartmouth Cove, Hx. Co. 14 May 1910	8·35	19+36	5+6⅜ 11⅜	43	..	..	..
3559	F	Dartmouth Cove, Hx. Co. 14 May 1910.	5·87	19+38	5+7 12	43	..	..	..
4013	M	Head of Dartmouth Cove, Hx. Co. Surgeon. P.E.F. Piers. 7 June 1913.	7·44	19+38	5+7 12	42	..	..	..
4538	M	Halifax, Hx. Co. Surgeon. P.E.F. Piers. 31 July 1917	6·38	19+37	4¾+6⅜ 11¼	43	14	..	7
4616	F	Jeddore, N.S. Surgeon. 17 June 1918	7·68	19+35	5¾+6 11¾	45	14	..	about 6
4636	M	Halifax, Hx. Co. Surgeon. P.E.F. Piers. 25 July 1918.	5·92	19+36	5+7 12	43	..	..	..
4637	F	Halifax, Hx. Co. Surgeon. P.E.F. Piers. 25 July 1918	5·70	19+37	5+7 12	43	..	..	..
7213	M	Halifax, Hx. Co. Surgeon. 15 July 1931.	7·23	19+37	5+7 12	44	about 10	..	10
7214	M	Ocean Terminal, Hx. Co. Surgeon. P.E.F. Piers. 23 July 1931.	7·54	19+36	4¾+6 10⅜	42	13	about 3	10
Average 5 M		Jamieson & Halifax Co.	6·94	19+36½	5+6·38	42½	13		
11 " 6 F		11 May & 3 Aug	37	19+35 38	7	39 to 45	11-14	3-5	7-10

8 who taken: May, 11, 16, 16, 17; June 7, 17; July .., 15 (with young), 23 (with eggs), 25, 25, 31; Aug. 3 (near Halifax).

Figure 47. Table of records of Northern Pipefish in Nova Scotia by Harry Piers (Museum No. 7214, Negative No. 23,858).

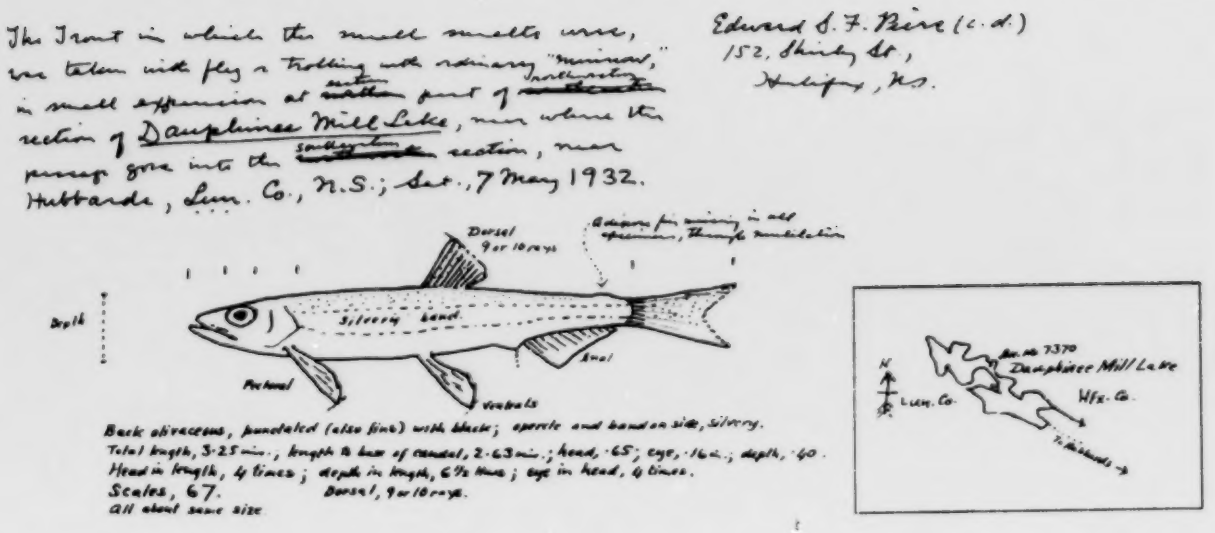

The Trout in which the small smelts were,
were taken with fly & trolling with ordinary "minnow,"
in small expansion at outlet part of
section of Dauphinee Mill Lake, near where the
passage goes into the
Hubbards, Lun. Co., N.S.; Sept., 7 May 1932.
Edward S. F. Piers (c. d.)
152, Shirley St,
Halifax, N.S.
Dorsal
9 or 10 rays
Adipose fin missing in all
specimens, through mutilation
Depth
Silvery band
Anal
Pectoral
Ventrals
Back olivaceous, punctated (also fine) with black; opercle and band on side, silvery.
Total length, 3·25 in., length to base of caudal, 2·63 in.; head, ·65; eye, ·16 in.; depth, ·40.
Head in length, 4 times; depth in length, 6½ times; eye in head, 4 times.
Scales, 67. Dorsal, 9 or 10 rays.
All about same size
No. 7370
Dauphinee Mill Lake
N
Lun. Co.
Hfx. Co.

Figure 48. Sketch of Rainbow Smelt with map of Dauphinee Mill Lake by Harry Piers (Museum No. 7370, Negative No. 23,859).

PLATE 51

OFFICE OF
H WYCKOFF ROGERS
BARRISTER, &c.

AGENT FOR LEADING
LIFE, FIRE AND ACCIDENT INSURANCE
COMPANIES
LOANS NEGOTIATED

OFFICES: ROOMS 1 & 2, MARITIME BLOCK
AMHERST, N. S.

July 13th. 1932.
ans. 18th/32

Feb.

Re White Perch, Acc. No. 7428

Harry Piers, Esq.,
Curator Provincial Museum,
Halifax, N.S.

Dear Sir:-

- RE: Bass -

I have delayed answering your favour of the 22nd ult. expecting to get another specimen a man promised to send to me when caught.

I wish to thank you for your information. I have caught these white perch weighing one and three-quarters pounds. About all our lakes outside the mountain lakes (which contain speckled trout) produce both white and yellow perch. They are not fighters like the trout and black bass (small mouth and large mouth). The striped bass is more of a salt water fish which enter some of our rivers, but do not enter our lakes. The black bass is a lake fish and a great fighter, a cannabal, and trout do not flourish in the same water. I enclose some cuts which show this bass to be very similar to the white perch, and have no longitudinal stripes. White and yellow perch abound in the following lakes in this County: Nattatall, Victoria and Big Lake Killarney, Nappan, Pi[illegible]eo Angevine, McArtnur and LaPhersons. I learn from Prof. H. C. White, Government Biologist, that black bass are caught in Wheaton's Lake, Bocabec, near St. Andrews, N. B., but I cannot ascertain that they are taken in any Nova Scotian lakes though people living near the above mentioned lakes claim they contain bass, (evidently mistaken).

Figure 49 A. Page one of two page letter to Harry Piers from H. Wyckoff Rogers concerning distribution of White Perch and Yellow Perch in Cumberland County (Museum No. 7428, Negative No. 23,497).

OFFICE OF
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LIFE, FIRE AND ACCIDENT INSURANCE
COMPANIES
LOANS NEGOTIATED

OFFICES: ROOMS 1 & 2, MARITIME BLOCK
AMHERST, N. S.

- 2 -

I am enclosing a letter published in the "Oxford Journal" on August 6th. 1931 by Mr. Charles McNab. I have lately written him asking his reason s forand how he verified that the fish he refers to are bass. So far, I have received no reply.

Thanking you for the interest you have taken in the matter.

Youra faithfully,

H'R/CMM

ENCLS - C.L.

Figure 49 B. Page two of two page letter to Harry Piers from H. Wyckoff Rogers concerning distribution of White Perch and Yellow Perch in Cumberland County (Museum No. 7428, Negative No. 23,496).

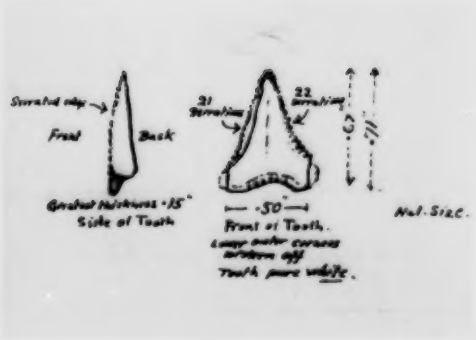


Figure 50. Sketch of White Shark tooth, which was embedded in motor boat at about 10 miles northeast of Digby Gut, by Harry Piers. (Museum No. 7508, Negative No.23,847).

Established 1882 Phone 19

The Spectator

Published every Thursday at Annapolis Royal, the Finest seaport of Western Nova Scotia and circulating among the Prosperous Apple Growers, Farmers, Shipbuilders and Fishermen of the Oldest Settled Town and Countryside in North America (Founded 1604) the Original Capital of the Province.
Connected by Steel Bridge (1921) with Granville.

Population—According to the Official Census of 1921: within a radius of two miles of The Spectator Office 2680. County population 18,133

The Spectator Office fronts on the oldest street in North America.

J. W. DAWSON STEARNS, Editor — St Anthony Street and Drury Lane

JOB PRINTING OF ALL KINDS

ANNAPOLIS ROYAL, Nova Scotia, Feb. 28, 1933 193

Dear Mr. Piers,

Further in re Sharks, etc., I am told that a good many years ago a man living at Karsdale, near Port Wade, went off early one morning at low water in a row boat to overhaul his weir near Goat Island, where he found an abundant catch of herring that loaded the boat to the gunwales. He had 2 or 3 miles to row home, but it being perfectly calm. he did not hesitate. A short distance on his way however the boat was bumped by a big shark that nearly capsized it, and it was only by throwing fish overboard to feed the shark every few minutes that the man eventually reached home in safety. This was in landlocked waters, quite inside the Basin. The incident shows that the Basin is not proof against sharks and perhaps the creature may have been the same as in later years attacked Munro.

Yours very truly,

J. W. Dawson Stearns.

JWDS/JC

Figure 51. Letter to Harry Piers from J. W. Dawson Stearns, Editor, The Spectator, *dated 28 February 1933 concerning a shark attack on a row boat near Goat Island (Museum No. 7508, Negative No. 23,435).*

PLATE 56

PROVINCIAL MUSEUM, HALIFAX, N. S.

Locality and When Collected	Collector (c) Donor (d)	Received 1933	No. of Specimens
Caught in Hubbards River, Hubbards, Hx. Co., N.S.; 18 June 1933	E. S. Bringloe coll. per Edw. A. T. Piers	20 June	1

Measurements and proportions:

Total length	7·75 ins.	
Length to base of caudal	6·40 "	
Depth (greatest at front of dorsal)	1·88 "	(about 3½ times in length to base of caudal)
Head	1·37 "	4½ " " " " " " "
Eye	·35 "	4 " in head.

Lower pharyngeal teeth in a single row, 5 on each side (teeth 5-5).

Fin formula: Dorsal, 8 (with an extra, short one, about ½ as long, in front), obscure; Pectoral, about 15; Ventrals, 9 (red, blackish at tips); Anal, 13 (with an extra, short one, about ½ as long, in front), red, blackish at tip.

Lateral line decurved. Scales: 10 scales (front of dorsal to lateral line) — 52 scales in lateral line — 4 scales (lateral line to vent).

Dorsal fin inserted a little behind the vertical. Abdomen from ventrals to vent, with a serrate scales; anal inserted behind the vent, the scales not running on to it. Lower jaw included.

Maxillary small; to about ½ the way back from front of eye.

Colour:- Back and dorsal fin, olivaceous; lower part (sides) of head golden, particularly under eye; sides of body and the belly, paler golden; ventrals and anal fins, red, blackish at tips; caudal blackish.

(No black spot at base of dorsal; no dark spot behind head. No tubercles.)

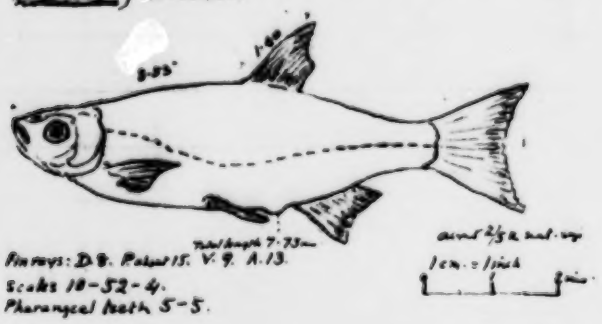


Figure 52. Sketch of Golden Shiner from Hubbards River by Harry Piers (Museum No. 7608, Negative No. 23,848).

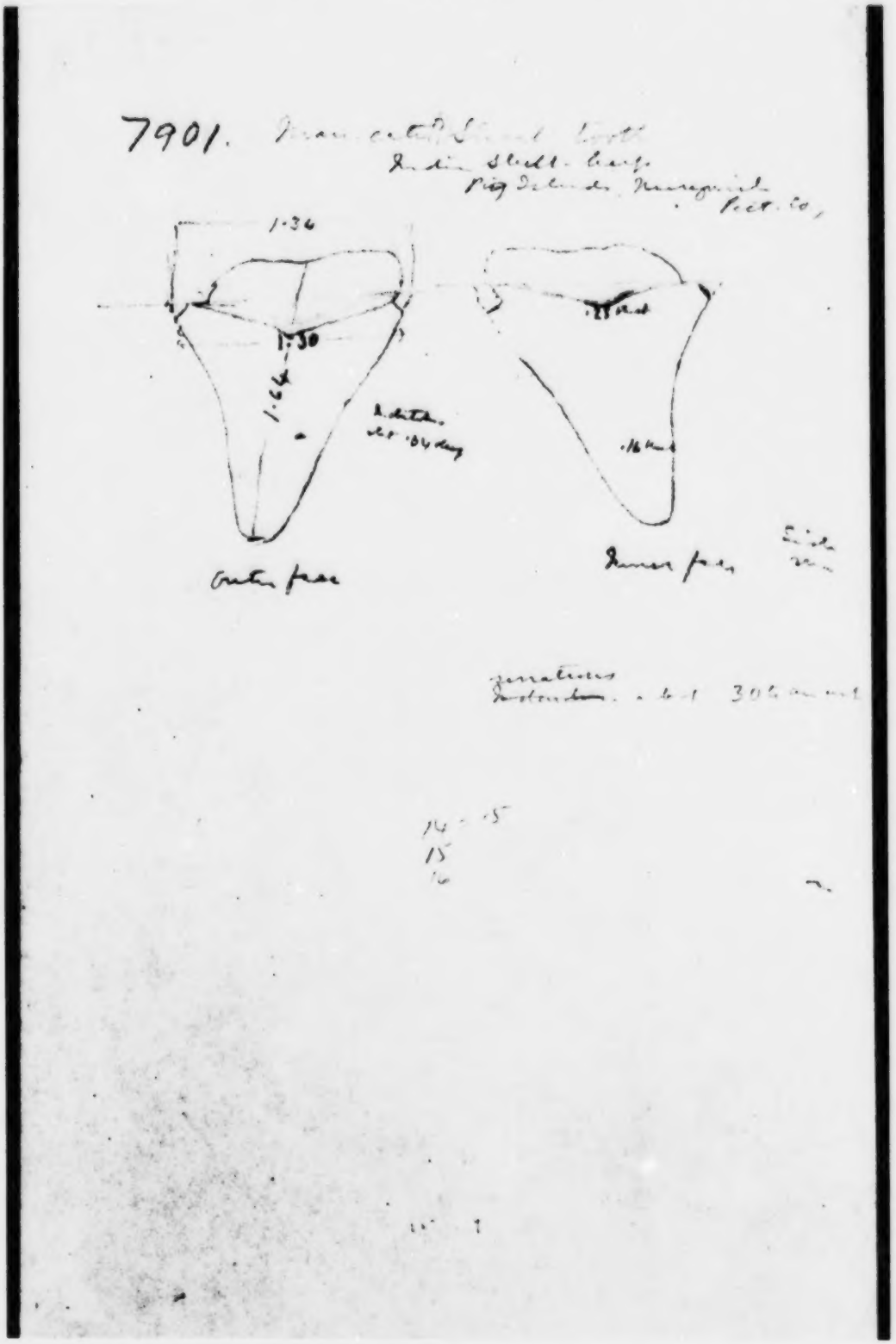


Figure 53. Rough sketch of White Shark from Indian midden at Pig Island by Harry Piers (Museum No. 7901, Negative No. 23,466b).

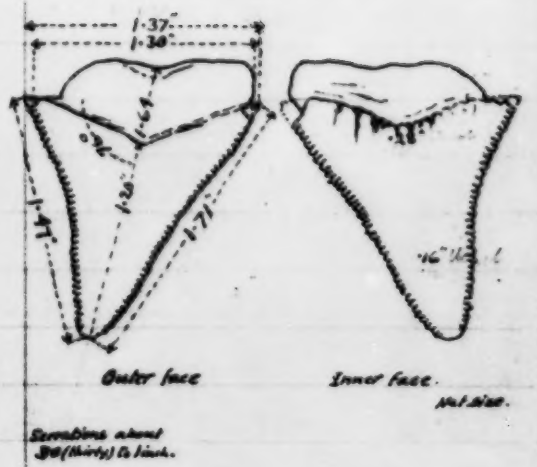
Locality and When Collected	Received 1934	No. of Specimens	Remarks
Found with the forgoing Indian stone implements, etc., with the Bears tooth (Cat. No. 7902) & some pieces of Mosaic matters, in an ancient Indian shell-heap (in a stratum of oyster-shells about 1½ to 3 ft. deep) on southeast side of Pig Islands, just to southeast of Pig Island Mangrowish, Dist. G., N.S.; collected 27 July, 1934.	24 Aug.	1	

PLATE 58

Figure 54. Sketch of White Shark tooth from Indian midden at Pig Island by Harry Piers (Museum No.7901, Negative No., 23,853).

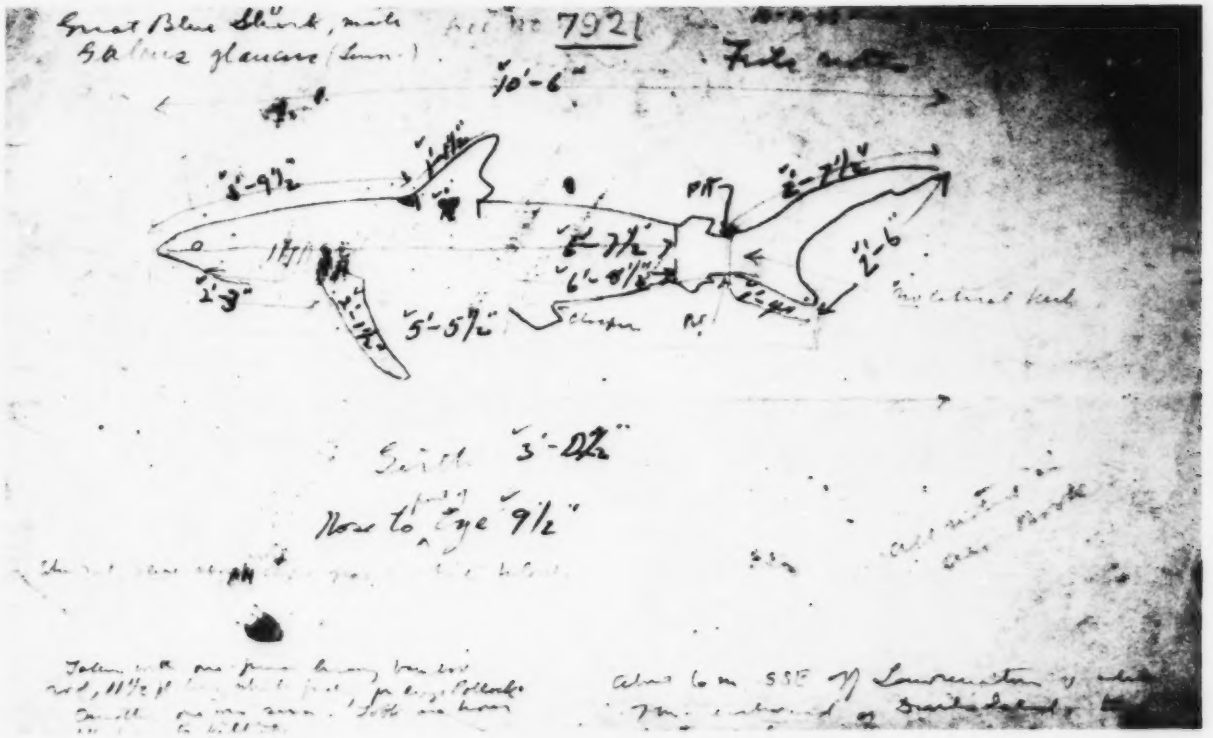


Figure 55. Rough sketch and measurements of a Blue Shark, from about 7 miles eastward of Devil's Island, by Harry Piers (Museum No. 7921, Negative No. 23,463).

PLATE 59

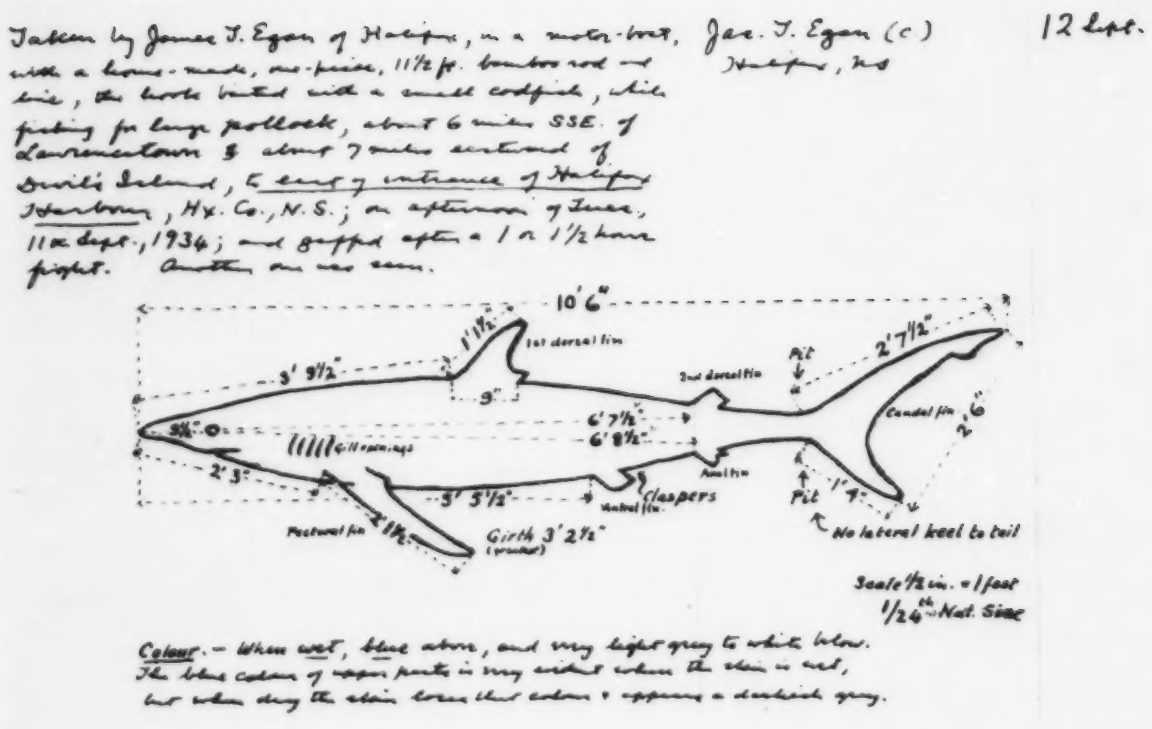

Taken by James J. Egan of Halifax, in a motor-boat, with a home-made, one-piece, 11½ ft. bamboo rod and line, the hook baited with a small codfish, while fishing for large pollock, about 6 miles SSE. of Lawrencetown & about 7 miles eastward of Devil's Island, & east of entrance of Halifax Harbour, Hx. Co., N.S.; on afternoon of June, 11th dept., 1934; and gaffed after a 1 or 1½ hour fight. Another one was seen.
Jas. J. Egan (c)
Halifax, NS
12 Sept.
10' 6"
1' 1½"
1st dorsal fin
3' 9½"
9"
2nd dorsal fin
Pit
2' 7½"
Caudal fin
2' 6"
6' 7½"
6' 8½"
Anal fin
2' 3"
5' 5½"
Ventral fin
Claspers
Pit
1' 4"
Pectoral fin
2' 1½"
Girth 3' 2½"
(around)
No lateral keel to tail
Scale ½ in. = 1 foot
1/24th Nat. Size
Colour. – When wet, blue above, and very light grey to white below. The blue colour of upper parts is very evident when the skin is wet, but when dry the skin loses that colour & appears a dark grey.

Figure 56. Sketch and measurements of Blue Shark from about 7 miles eastward of Devil's Island inscribed by Harry Piers in Accession Book No. 5, page 54 (Museum No. 7921, Negative No. 23,843).

7921 Jaws (upper & lower) of Prionace glauca (Linn.) Great Blue Shark.

Male; adult.

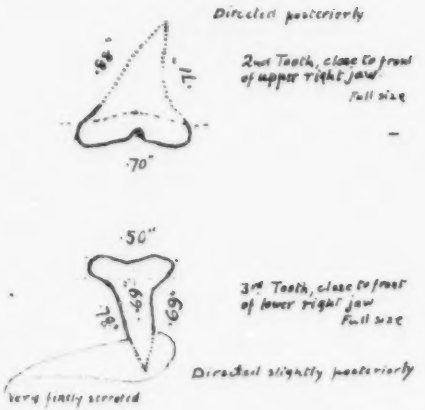


PLATE 61

Figure 57. Sketch of tooth of Blue Shark from about 7 miles eastward of Devil's Island (Museum No. 7921, Negative No. 23,842).

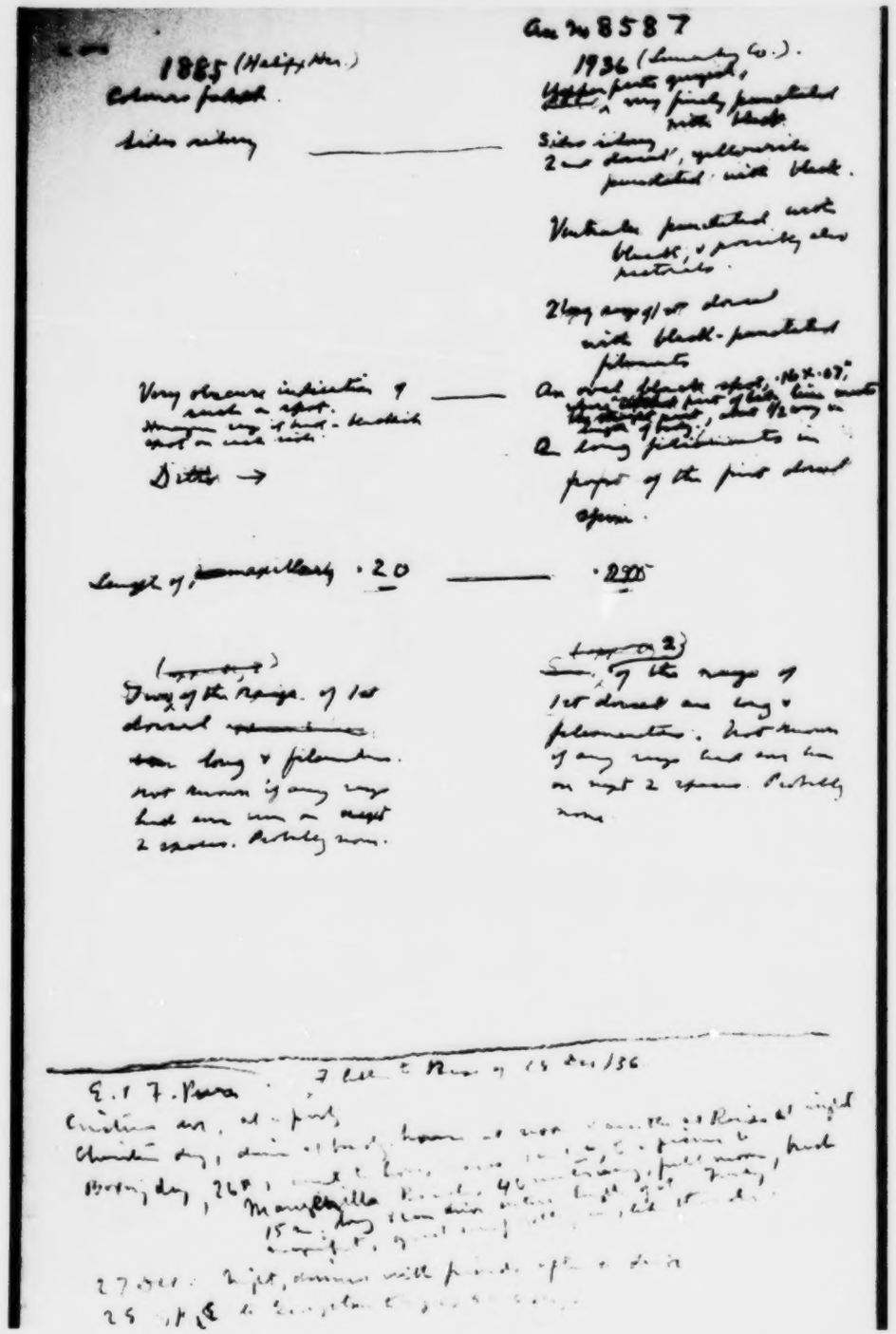


Figure 58. Laboratory notes on Atlantic Moonfish from Stonehurst by Harry Piers (Museum No. 8587, Negative No. 23,513b).

Figure 59. Rough sketches and notes on Atlantic Moonfish from Stonehurst by Harry Piers (Museum No. 8587, Negative No. 23,515b).

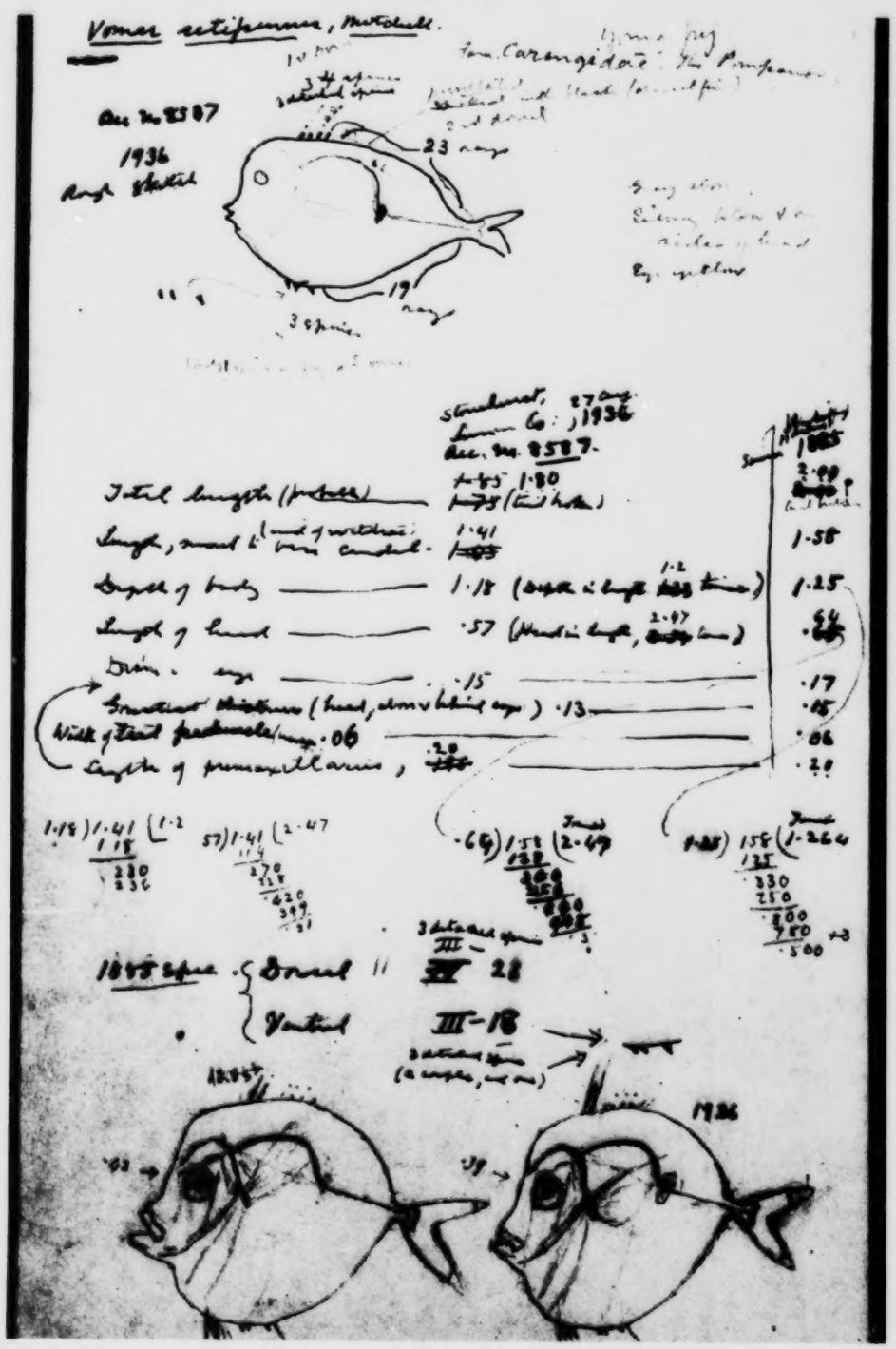


Figure 60. Rough sketches of Atlantic Moonfish from Stonehurst by Harry Piers, which were never inscribed into his Accession Book, (Museum No. 8587, Negative No. 23,465b).

Dried Fish

(Awarded to Robin, Jones & Whitman's exhibit at Provincial Exhibition, 8–16 Sept. 1915),

	Value per 112 lbs.
West side of Exhibit	
Caraquet (New Brunswick) Codfish (up to 28 ins)	6 00
Gaspe Shore Codfish (up to 25 ins.)	6 25
Cape Breton Shore Codfish (up to 29 ins).	6 25
Magdalen Island Codfish (up to 25 ins).	6 00
Canadian Labrador Codfish (up to 25 ins).	5 50
Newfoundland Shore Codfish (up to 31 ins.).	6 00
Nova Scotia Shore Codfish (17½ up to 24 ins).	5 75
Gaspe Bank Codfish (up to 25 ins).	6 00
Lunenburg Bank Codfish (26½ up to 32 ins)	5 50
South end.	
Magdalene Island Codfish (up to 41 ins, or 23 ins. split)	6 00
East side.	
Lunenburg Bank Codfish (up to 34 ins)	5 50
Gaspe Shore Codfish (up to 25 ins.)	6 25
Shore Hake (20 up to 26½ ins).	4 50
Bank Hake (23½ up to 31 ins.)	4 00
Cusk (18 up to 27 ins.)	3 75
Shore Haddock (19 up to 19½ ins.)	4 75
Bank Haddock (18 up to 19 ins).	4 25
Bank Pollock (up to 31 ins).	4 00
Shore Pollock (up to 30 ins.)	4 25
North end.	
Magdalen Island Codfish	6 00

b The lengths given above are the shortest total lengths from tip of nose (a) to end of caudal fin (b).

Measured 11 Sept. 1915.

Figure 61. List of dried Codfish, Hake, Cusk, Pollock and Haddock values per 112 pond weight for localities in Nova Scotia, New Brunswick, Gaspe, Magdalen Islands and Newfoundland according to Robins, Jones and Whitemans exhibit at Provincial Exhibition, Halifax, 8-16 September 1915 (Negative No. 24,069).

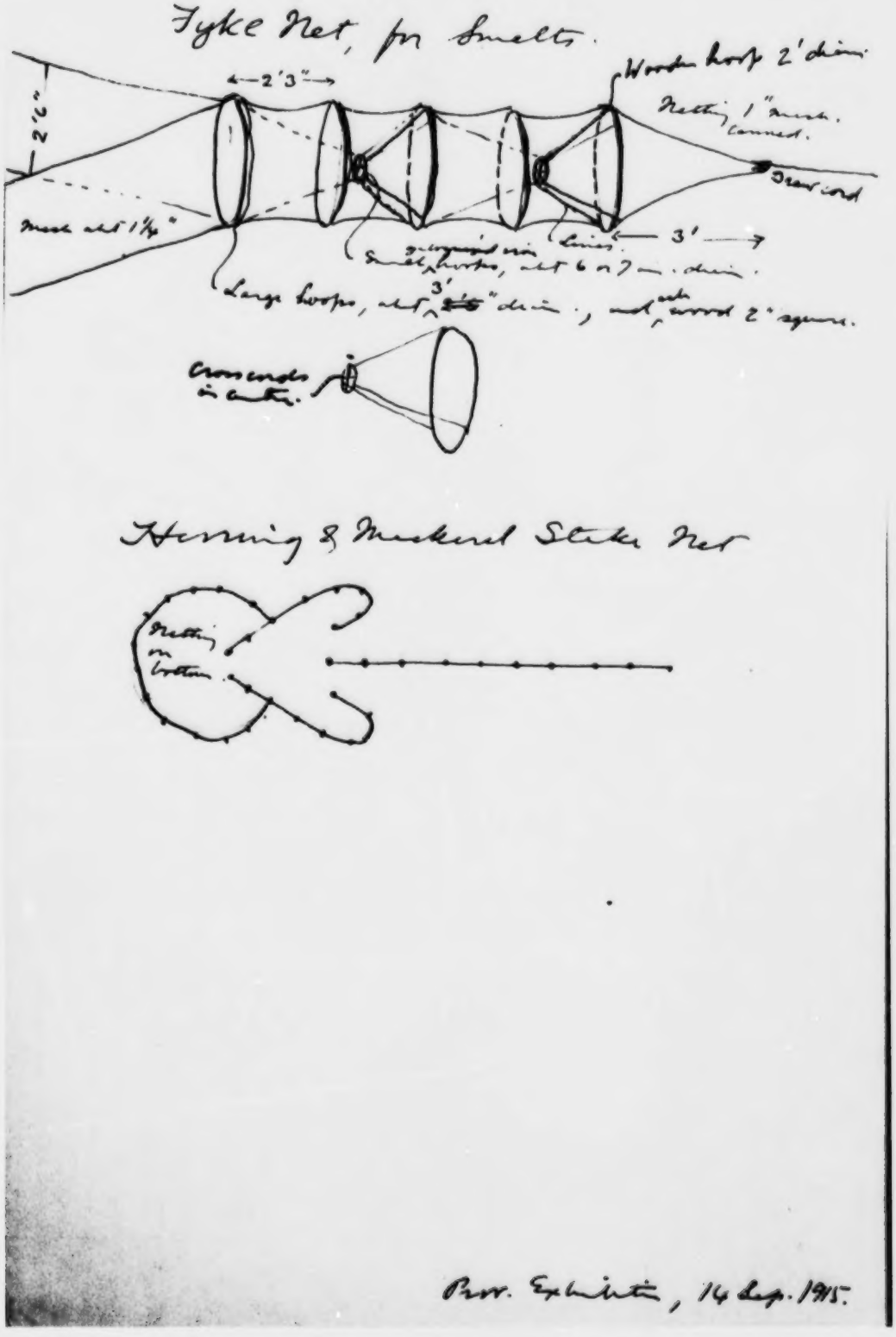


Figure 62. Sketch of a Tyke Net used for catching Smelts and a Herring and Mackerel Stake Net by Harry Piers at the Provincial Exhibition, Halifax, 14 September 1915 (Negative No.24,049).

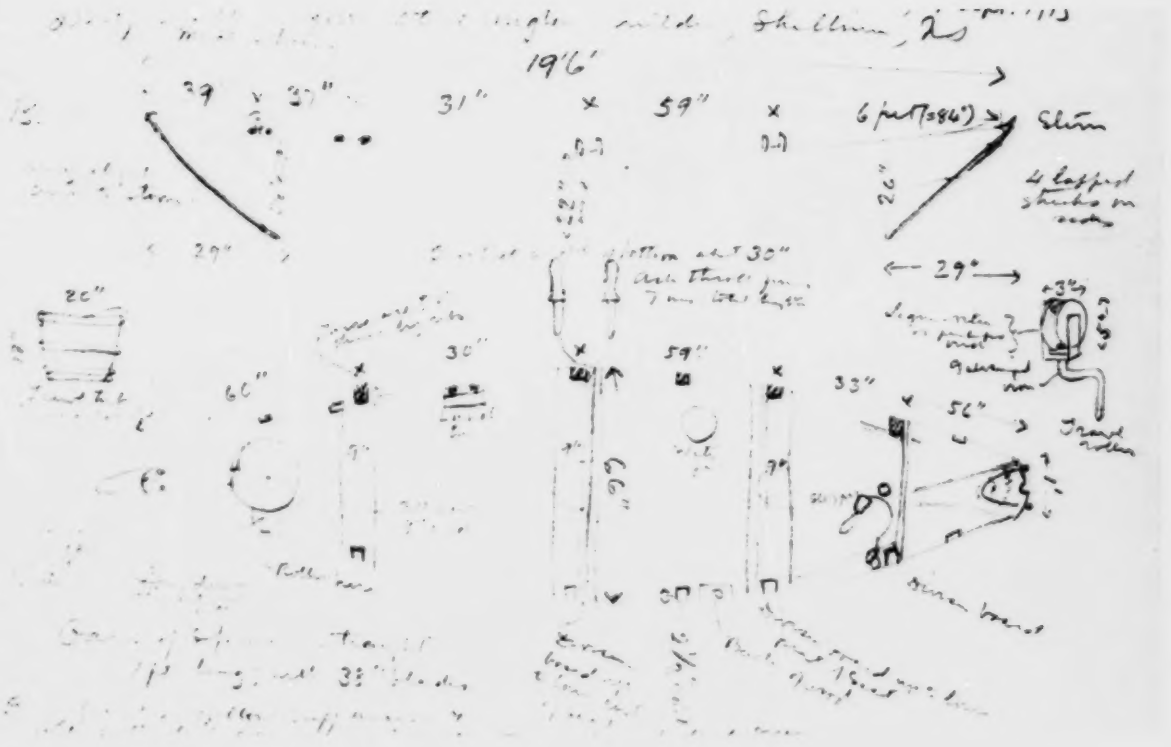


Figure 63. Sketch of a fishermans dory including dimensions built by John Etherington, builder, Shelburne, Nova Scotia at Provincial Exhibition, Halifax, 17 September 1915 (Negative No. 24,048).

Fish.
Cod spawning.

THE HONOURABLE E. N. RHODES,
Minister of Marine and Fisheries,
Ottawa.

PROFESSOR E. E. PRINCE, LL.D.
Dominion Commissioner of Fisheries,
Chairman of the Board, Ottawa.

PROFESSOR A. B. MACALLUM, Sc.D., F.R.S.
Secretary Treasurer of the Board
The University, Toronto.

MARINE AND FISHERIES
CANADA

FISHERIES OVERSEAS STATION,

GREAT LAKES STATION,
Georgian Bay, Ont.

ATLANTIC STATION,
St. Andrews, N.B.

BIOLOGICAL BOARD OF CANADA.

Ans. 19 Aug. 1915

Biological Station St. Andrews N.B.
July 16th 1915

Harry Piers Esq
Provincial Museum
Halifax N.S.

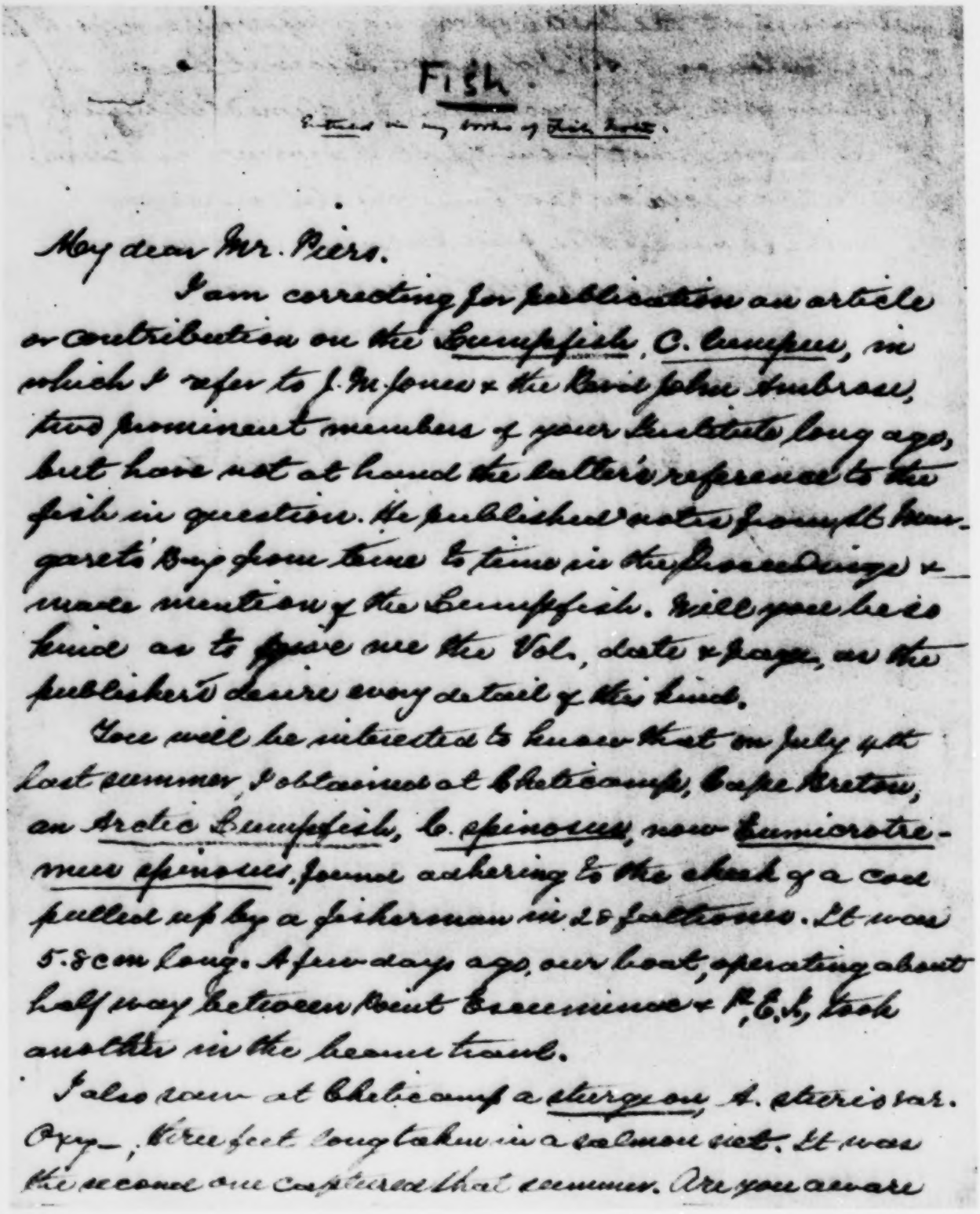
Dear Mr. Piers.

Your letter of the 30th ult. was sent on here to await my arrival. I have examined cod ovaries of N.S. coast & found no sign of glassy transparency indicating the approach of spawning time. Hind & other observers did not know of this diagnosis so little being known of spawning of sea fishes. Dr. Hjort has been studying the cod recently & you might write him c/o Fishery Officer Keays Souris. P.E.I. asking if his observations this season would support a spring or an "Aug. to Nov." spawning season as available information up to now is not decisive.

Yours faithfully E. E. Prince

PLATE 68

Figure 64. Letter dated 16 July 1915 to Harry Piers from Edward E. Prince, Biological Board of Canada, St. Andrews, New Brunswick concerning Cod (Negative No. 24,047).



Fish.

Letter re my notes of Fish book.

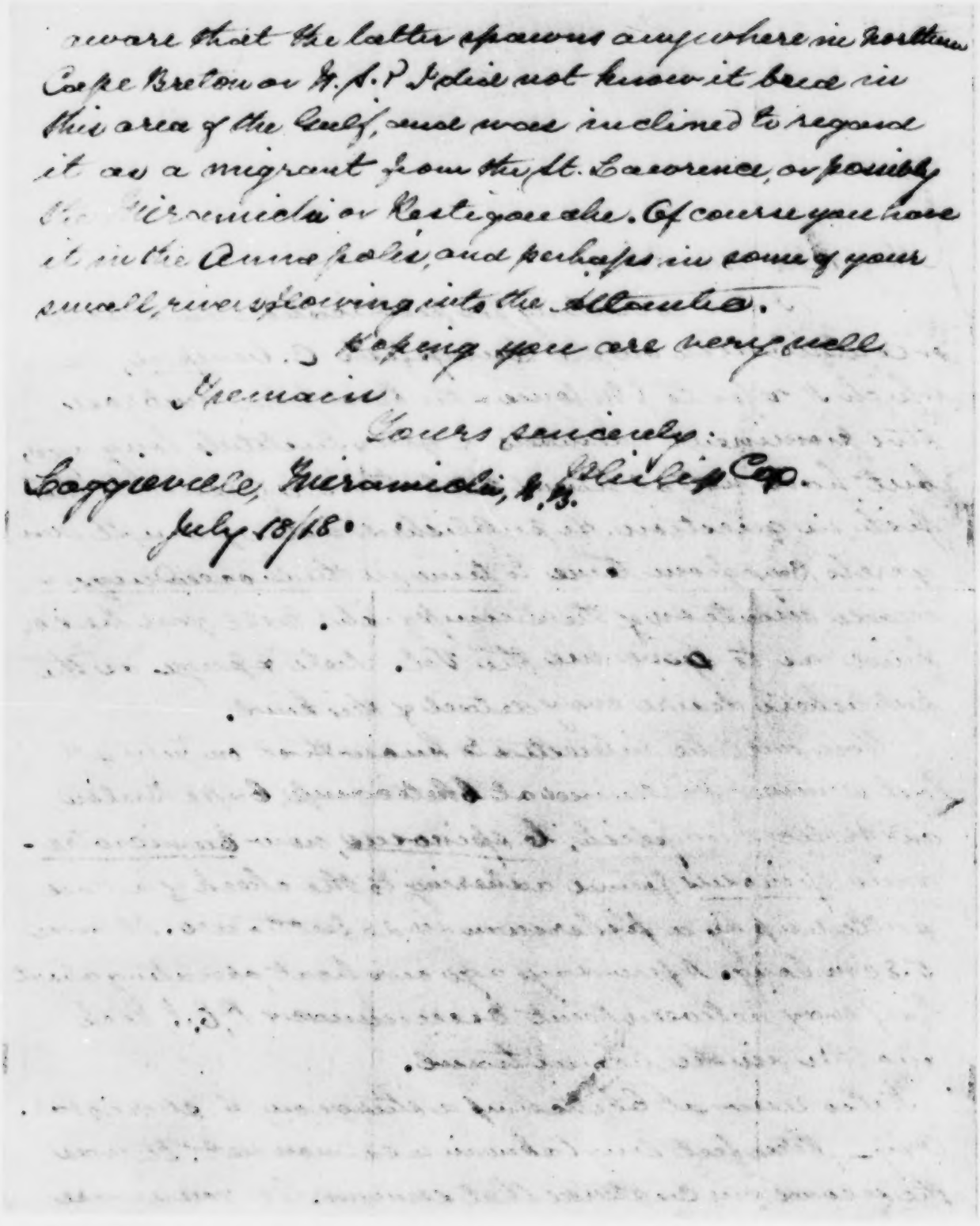
My dear Mr. Piers.

I am correcting for publication an article or contribution on the Lumpfish, C. lumpus, in which I refer to J. R. Jones & the late John Imbrau, two prominent members of your Institute long ago, but have not at hand the latter's reference to the fish in question. He published notes from the Margaret Bay from time to time in the Proceedings & made mention of the Lumpfish. Will you be so kind as to give me the Vol., date & page, as the publishers desire every detail of this kind.

You will be interested to know that on July 4th last summer, I obtained at Cheticamp, Cape Breton, an Arctic Lumpfish, C. spinosus, now Eumicrotremus spinosus, found adhering to the cheek of a cod pulled up by a fisherman in 20 fathoms. It was 5.8 cm long. A few days ago, our boat, operating about half way between Point Escuminac & P.E.I., took another in the beam trawl.

I also saw at Cheticamp a sturgeon, A. sturio var. Oxyr—, three feet long taken in a salmon net. It was the second one captured that summer. Are you aware

Figure 65A. Page one of two page letter dated 18 July 1918 to Harry Piers from Philip Cox concerning fish captured at Cheticamp, Cape Breton Island, in summer of 1917 (Negative No. 24,764).



aware that the latter spawns anywhere in Northern Cape Breton or N.S.? I do not know it here in this area of the Gulf, and more inclined to regard it as a migrant from the St. Lawrence, or possibly the Miramichi or Restigouche. Of course you have it in the Annapolis, and perhaps in some of your small rivers flowing into the Atlantic.

Trusting you are very well

I remain

Yours sincerely

Caggieville, Miramichi, N.B. Philip Cox.

July 18/18.

Figure 65B. Page two of two page letter dated 18 July 1918 to Harry Piers from Philip Cox concerning fish captured at Cheticamp, Cape Breton Island, in summer of 1917 (Negative No.24,765)

University of
St. Francis Xavier's College
Antigonish, Nova Scotia

Dec 12, 1918.

Mr Harry Piers
Curator, Provincial Museum,
Halifax, N. S.

Dear Mr Piers,-

I received your letter of the 10th inst. I shall not injure any of the Lophius specimens, but measure them. I think the paper which Jones read was based on a study of the very small specimen which is still in the Museum. This specimen was in a very bad condition and I did not take it with me. The small specimen, I referred to in my letter, is about three inches long and is the smallest of the three specimens which I borrowed. This is partially injured in the head region. I should like very much to obtain the dates of capture of the very small angler in the Museum and also of the three specimens I have borrowed. Perhaps there are records of this in the Museum.

Thanking you for your trouble, I remain

Very sincerely yours
C. J. Connolly

Figure 66. Letter dated 12 December 1918 to Harry Piers from C. J. Connolly, St. Francis Xavier's College, Antigonish, concerning Goosefish (Negative No. 24,767).

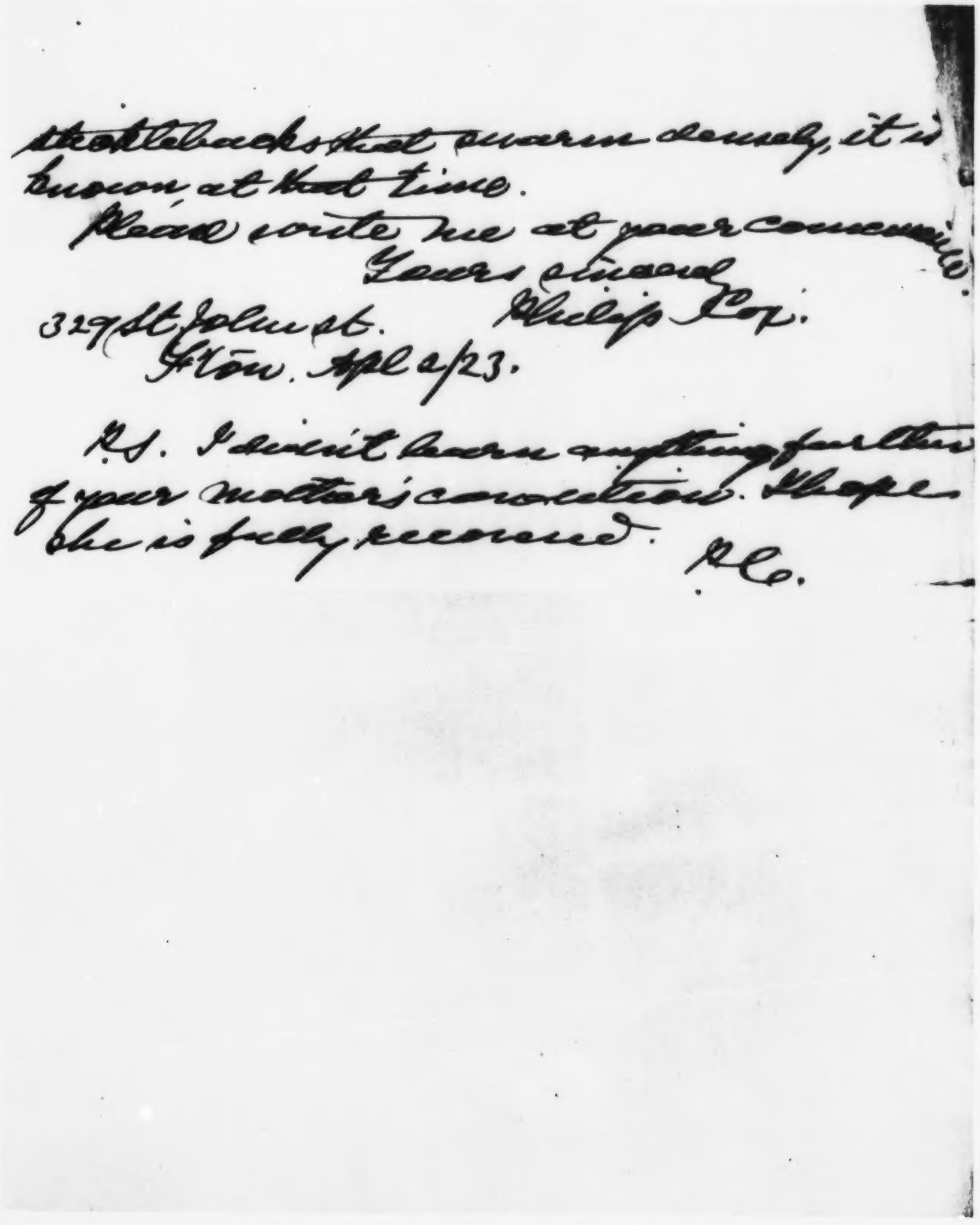
Dear Piers.

Here I am again bothering you. you must pay the usual penalty for being an authority. I am asked by Dr. Hentsman for an article on the Mackerel as observed at St. Ives Bay. Well I did not find there any evidence of careful watching nor keen of observing to any extent. No larval young were seen, nor did we capture any fry — none under 18 to 18 cm. in length. Now for the Points:-

(a) Have you met with the larval forms say from 4.6 - 7.00 m.m.? Have you any between 10 - 20 m.m.? If so, where were they found? Have you any knowledge of the fry of the season being seen in great schools in any of the littoral waters of U.K.?

In hor. schools ~~they~~ were seen, it is alleged, in St. Ives Bay under 2 inches 2 - 3 inches long. I am under the impression the observer mistook them — they were prob-

Figure 67. Page one of two page letter dated 2 April 1923 to Harry Piers from Philip Cox concerning Mackerel (Negative No. 24,064).



throatlebacks that swarm densely, it is
buscon at that time.
Please write me at your convenience.
Yours sincerely
Philip Cox.
329 St John st.
Flow. Apl 2/23.

P.S. I desire to learn anything further
of your mother's convalescence. Hope
she is fully recovered. P.C.

Figure 68. Page two of two page letter dated 2 April 1923 to Harry Piers from Philip Cox concerning Mackerel (Negative No. 24,063).

S. E. MARCH. C. E.
REGISTERED PROF. ENGINEER OF N. S.
PROVINCIAL LAND SURVEYOR

TOWN AND MUNICIPAL ENGINEERING, HYDRAULIC DEVELOPMENTS, DRAFTING AND BLUE PRINTING, Etc

OFFICE AND RESIDENCE: ALEXANDRA AVE.
PHONE No. 211

Ans. 16 Oct. '25.

BRIDGEWATER, N. S., Oct 14th 1925

Harry Piers Esq.
Halifax N.S.

Sault Whitefish
Coregonus labradoricus
5225, 5454, 5455

Dear Sir,

Yours of the 13th inst re White Fish to hand.

You have quoted me correctly and the statement as written is correct. Strikes on dry fly were in the majority of cases made before the fly touched the water.

Last spring I had only very few days spent with these fish, they youngest one and myself learned 2 day. This was on the 9th day of May & about half were taken on swimmers and the balance on a tiny small silver doctor. The method of using the fly was with shortened line dangled just below the water. The swimmers were taken from 1 foot to 12' below the surface in strong currents. I have never known them to be caught in still or slowly moving water, though I have frequently seen them breaking and leaping there.

I should like very much to meet you personally a number of years ago I began making water colour sketches or more correctly plates of these Sardine birds drawn mostly from life, lacking skill to hustle for the where withal to feed and clothe a growing family it has not progressed as rapidly as I should wish.

Some of these have been seen by other artists who have stated that they possessed some merit. The matter which I would like to discuss with you after having seen some of the product is "whether it is worth while to go ahead with the undertaking or has this field been fully covered."

I am a bird lover but not an ornithologist, should these plates merit publication, I would have to have a Co. labelled.

Water colour painting has been my hobby, (though the boys often chide me jokingly for a considerable number of years.

Will you let me know what you think about this, the idea has been back of my mind, would take too long to set down in a letter.

Yours truly S. Edgar March

Figure 69. Letter dated 14 October 1925 to Harry Piers from S. Edgar March concerning the capture of Sault Whitefish (Atlantic Whitefish, Coregonus huntsmani*), (Negative No.24,757).*

Ans. 9 Dec. /25

Dear Piers.

Have you records of the occurrence of pure fresh water fish in Cape Breton? The matter of their distribution in lands bordering the Gulf has come up. I found only one in P.E.I. – A. chrysoleucas – It may have been introduced. I know some from N.S. & Q. If none are known from C.B., let me have a few of the most easterly records for the mainland of N.S.

I am examining a lot of material collected in the Annapolis Basin lowlands during the last two years and shall be glad to give you a list of species if required.

Hope you are very well.

Sincerely Cox

17 St. John St.
Fredericton, N.B.
Dec. 7/25.

Figure 70. Letter dated 7 December 1925 to Harry Piers from Philip Cox concerning freshwater fish in Cape Breton (Negative No.24,065).

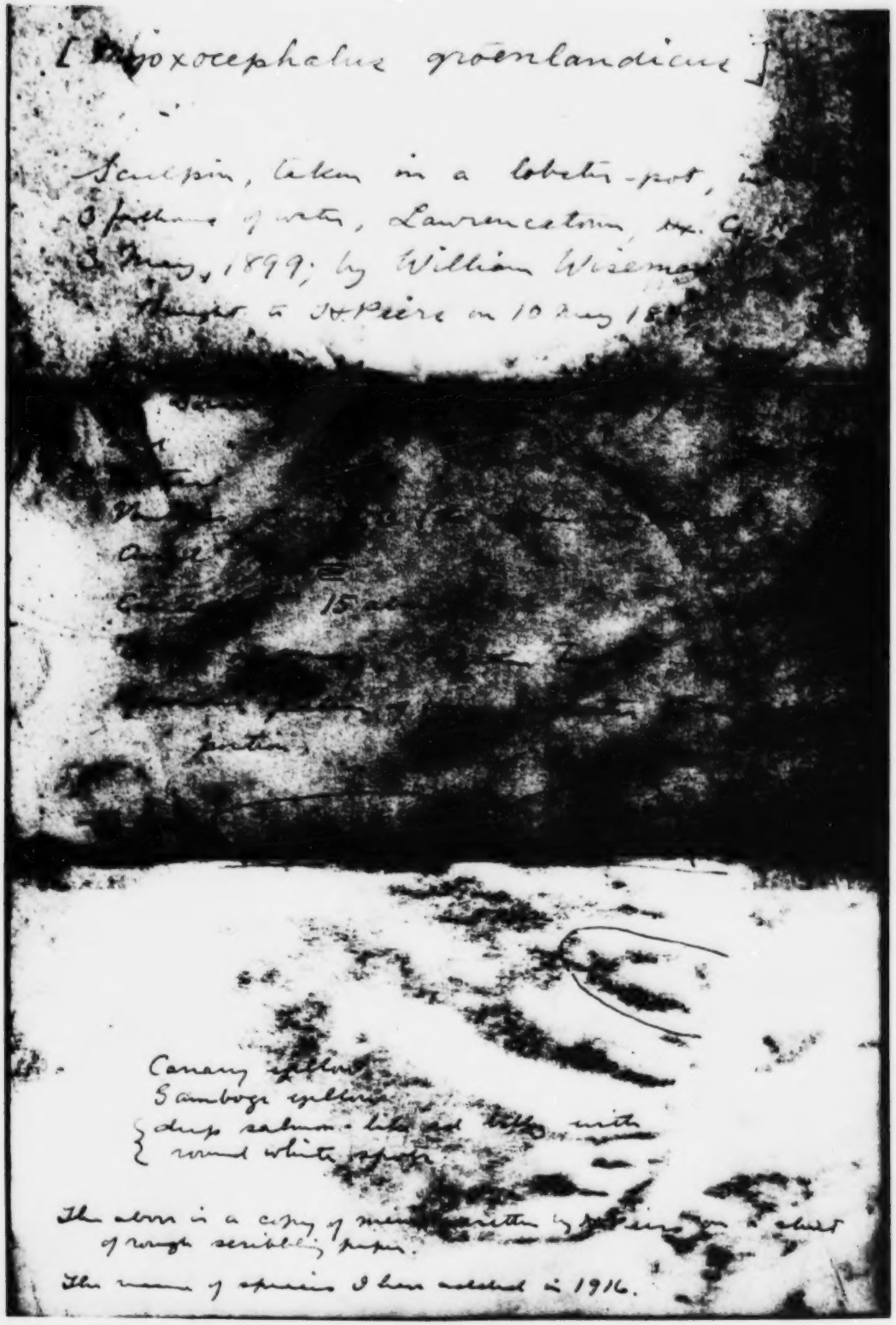
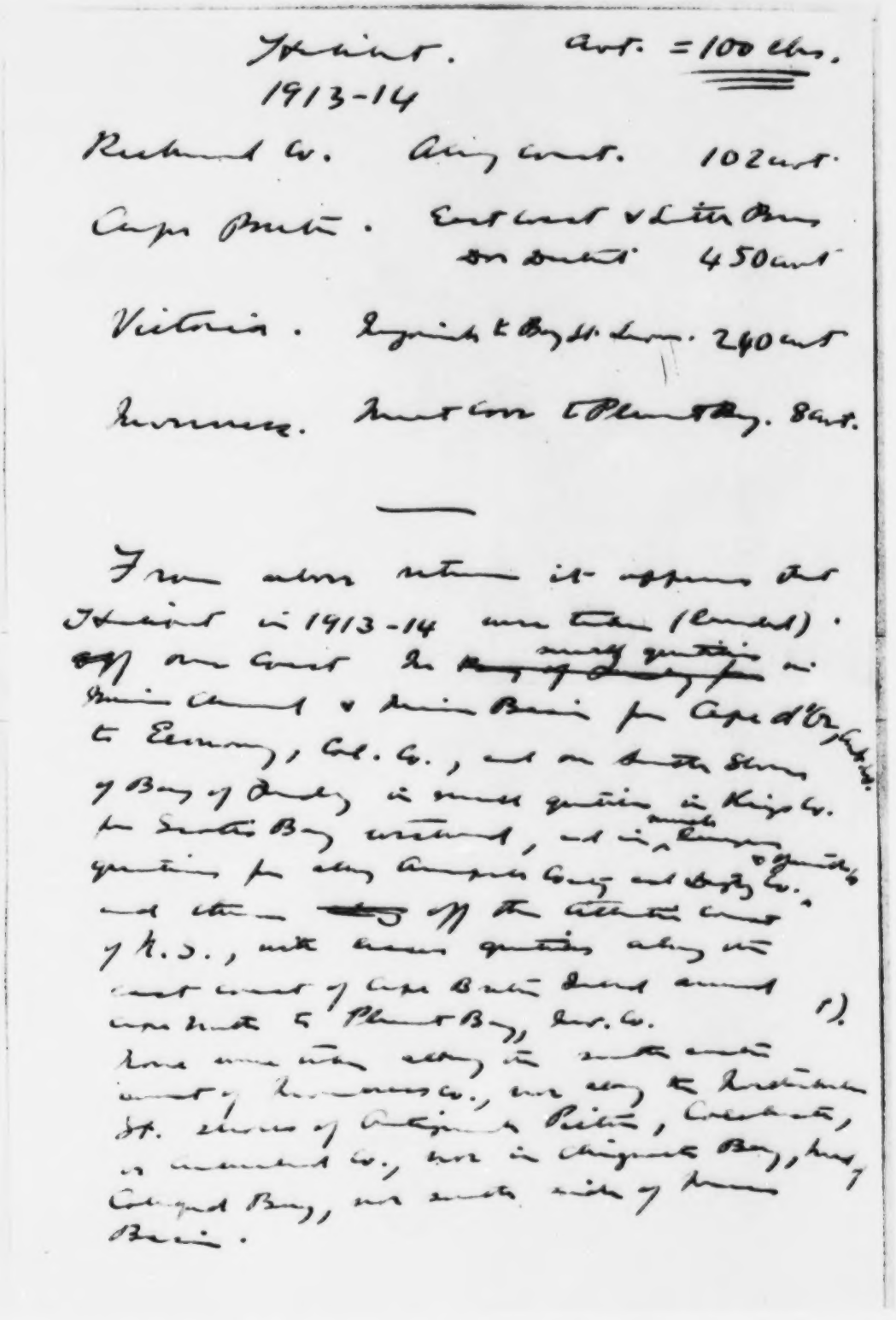


Figure 71. Original note by Harry Piers concerning Sculpins from Lawrencetown, Halifax Co., N. S., 3 May 1899 (Negative No. 24,056).



Halibut. Ont. = 100 lbs.
1913-14

Richmond Co. Arichat. 102 cwt.

Cape Breton. East coast & Little Bras d'Or 450 cwt

Victoria. English & Bay St. Lawr. 240 cwt

Inverness. West Coast & Plaster Bay. 8 cwt.

From above return it appears that Halibut in 1913-14 were taken (landed) only on coast in many quantities in Spanish Channel & Spanish Bay & Cape d'Or to Economy, Col. Co., and on South Shore of Bay of Fundy in small quantities in Kings Co. & Yarmouth Bay westward, and in smaller quantities & only occasionally in Annapolis Basin and Digby Co. and also off the Atlantic coast of N.S., with some quantities along the coast coast of Cape Breton Island and on west coast & Plaster Bay, Inv. Co. 1).

Have seen none along the north coast of Inverness Co., nor along the Northumberland St. shores of Antigonish & Pictou, Cumberland, & Colchester Co., nor in Chignecto Bay, Minas & Cobequid Bay, nor south side of Minas Basin.

Figure 72. Original note by Harry Piers concerning the Halibut catch in Nova Scotia waters 1913 - 1914 (Negative No.24,766).

Acc. No. 4266. Received 9 Aug. 1915

Fundulus diaphanus (Le Sueur).
Freshwater Killifish; Freshwater Minnow
Abundant in brackish lagoon, Dauphinee Beach, Hubbards, Hx. Co., N.S.; 26 July, 1915. E. S. T. Piers coll. 200 specimens.

Total length 1·45 to 2·90 inch. (average about 2·00 in.). Head in length, 3⅓ times; depth in length 4¼ (to 5 times in small specimens).

Fin formula: D. 13 or 14 (14 counted all); A. 12; V. ?; P. 16 or 17.

Scales: 40 to 53 in lat. line; 8 from lat. line to dorsal [description says from 12 to 15).

Head dark on top. 14 to 18 dark transverse bars on sides, sometimes only obscure or almost wanting.

Dorsal pointed, tips red.

Figure 73. Original note by Harry Piers concerning Banded Killifish, Fundulus diaphanus, *at Dauphinee Beach, Hubbards 26 July 1915 (Museum No. 4266, Negative No. 24,054).*

15 Sept. 1915.

"Tinker Mackerel", in half-barrel.
13 ins. in total length. Opened down the back

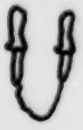
"No. 1 Alvivers", 200, are 12 ins. in total length.

Sword of sword-fish is 4 ft. 0½ ins. long.

"Turbot" in Ferguson's exhibit.
What fish is this?

Dory.

Four lapped strakes in sides; length from bow to stern about 18 ft.



Thwart-pins with string connecting bow ends, so they cannot come out

Two fenders in stern. Oil-skin & sea-weed, & sacking towels, & bits (white).

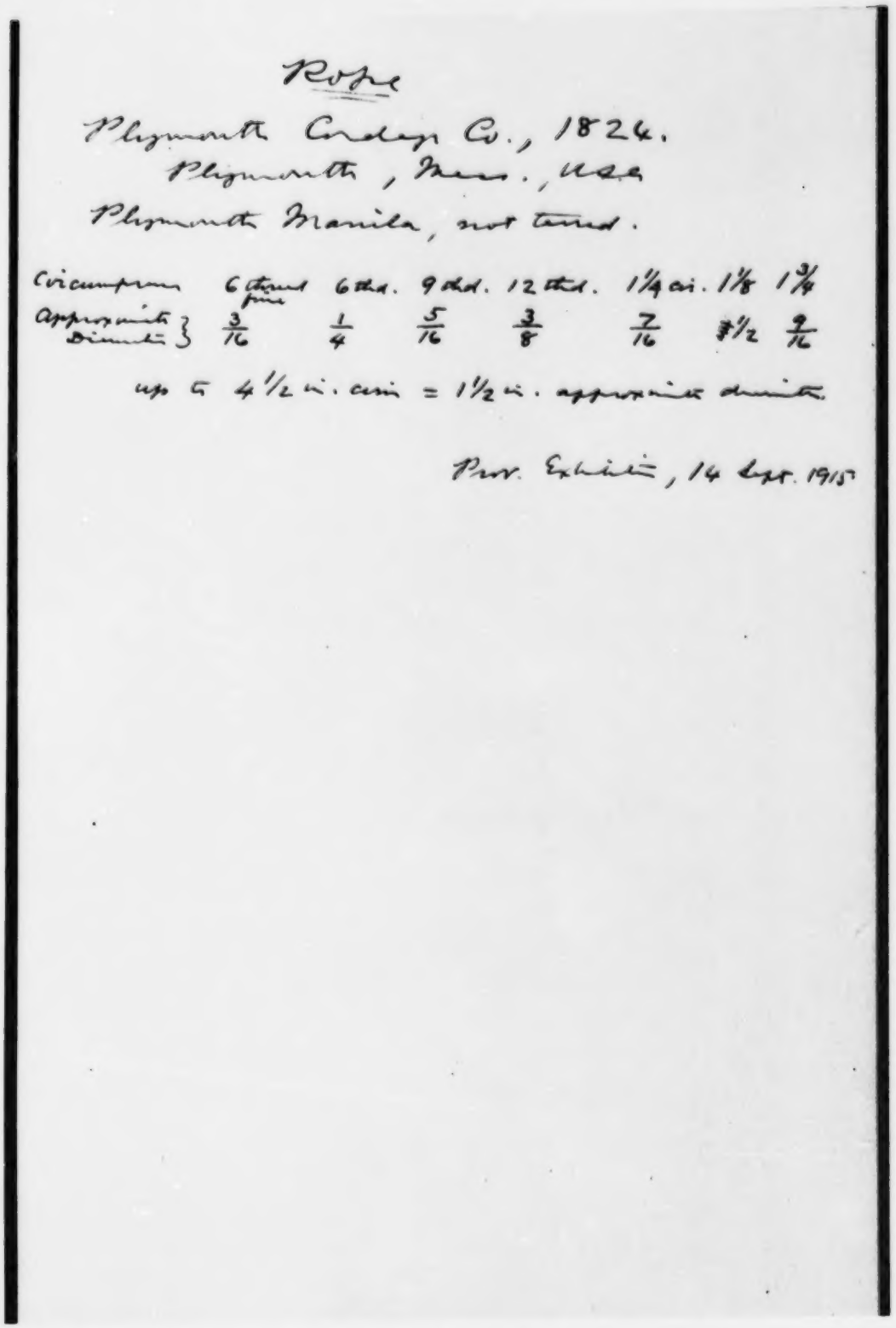
Two pairs of spruce oars.

1 Hawl-roller at port bow-gunnel.

roller 6 in. diam.; galvanized iron strap & support.

1 tin for bailing on side boards of dory.
1 Earthen-ware water jug.
1 Wooden bailer.
1 bit of thwart (heavy thwart) in bow.

Figure 74. Original note by Harry Piers concerning Tinker Mackerel at Provincial Exhibition, 14 and 15 September 1915 (Negative No. 24,051).



Rope

Plymouth Cordage Co., 1824.
Plymouth, Mass., USA
Plymouth Manila, not tarred.

Circumference	6 threads fine	6 thds.	9 thds.	12 thds.	1¼ in.	1⅛	1¾
Approximate Diameter	3/16	1/4	5/16	3/8	7/16	½	9/16

up to 4½ in. circ = 1½ in. approximate diameter.

Prov. Exhibition, 14 Sept. 1915

Figure 75. Original note by Harry Piers concerning Rope at Provincial Exhibition, 14 and 15 September 1915 (Negative No. 24,050).

Cod Gill Net, abt 6 in (in extreme) mesh. Cod nets usually set on bottom, with glass floats at head line.

Haddock Gill Net, 6 in. mesh, same as for Cod. Usually abt 75 fathoms long and abt 30 meshes deep. Haddock Gill Net has to be changed in position as Haddock are swimming or lying at something on bottom of sea.

Cod Trap Netting is of 4 1/2 inch mesh, of No. 9 cotton. This size mesh will not "mesh" the fish.

Mackerel Gill Netting is of 3 to 4 inch mesh.

Herring Gill Netting is of 2 1/4 to 3 in. mesh.

Smelt Gill Netting is of 1 1/2 inch mesh, and the sheets (mounted nets) are usually abt 10 fathoms long and abt 2 yards (yards) deep. Can be made up from the sheets in different sizes & depths to suit condition.

Tyke Nets are used in Nova Scotia for smelts in running water, and must through ice.

Cedar floats are not as good as cork floats. Glass floats ("Barrels") will actually sometimes sweat a little water through them when used in deep water. Seine not to be a panel in seining when up. Fish seen in show not exhibit, Prov Exhib, 11 Sep. 1915.

Figure 76. Original note by Harry Piers concerning Fish Netting at Provincial Exhibition, 14 and 15 September 1915 (Negative No. 24,073).

Fish Netting
Linen Thread Co., New York, etc.

Cod Trap Netting. White. Depth 100 meshes; mesh 4; twine 15; S.S. selvage. [Will not "mesh" Codfish].

Haddock (Seine) Net. white. 6 ins. mesh. With 1¼ in. soft cotton headline. Cotton float 5 in. long & 2 in. diam. with 3 in. loop at one end & 2 other floats.

Mackerel & Herring Gill Net Shute. White. Mesh 3¼ & 3½ inch.

Herring Gill Net; mounted. Tanned. "Standard" Cotton Net. Rows 30; deep 150; mesh 3 in.; no. 3 ply 14/6.

Smelt Gill Net Shute. White. Sea Island. No. 30/3 cord; 4 hang 90 M.; 4 M. deep; 1½ inch mesh; D.S. selvage.

Cod Lines (Burnham's)
Steam-tanned Cotton.

40 lb. line (hemist) is 5/16 inch diam.
9 lb. " is 1/8 inch diam.
2½ lb. " " 3/32 " "

Prov. Exhibition, 14 Sept. 1915

Figure 77. Original note by Harry Piers concerning Fish Netting at Provincial Exhibition, 14 and 15 September 1915 (Negative No. 24,066).

Fish Trawl-lines
(of steam-boat cotton line).

	Ground-lines	Gangings	Hooks
Halibut	24 lb.	9 lb.	Halibut hooks
Cod, Hake & Cusk (deep fish).	18 lb.	5 lb.	#12 to 14 hooks
Haddock. (Various sized gear is used. Light gear is required and gangings close together, so as to get as many hooks as possible.	12 to 14 lb.	2½ to 3½ lb.	#16 hooks

The weight of lines given above, is the weight (say 24 lbs.) of one dozen lines of 25 fathoms each. [Hooks are spaced in double-line lengths].

Vide memo with Mr. Dept of Marine & Co's exhibit at Prov. Exhibition, 11 Sept. 1915

Figure 78. Original note by Harry Piers concerning Fish Trawl Lines at Provincial Exhibition, 14 and 15 September 1915 (Negative No. 24,068).

Fishing.

Mackerel.

About 15 March 1916, some of the Gloucester mackerel seiners expected to go south to begin operations. One sailing about date named.

Cod.

The Lunenburg banking fleet were preparing to start fishing about the 20 March, 1916.

Herring.

The herring fishing season in [redacted] bays, &c, on west coast of Nfld. was over about 1st March 1916.

The Nfld. sealing fleet set out for the sealing grounds about 6 March 1916.

Figure 79. Original note by Harry Piers concerning the 1916 Mackerel, Cod and Herring fishery (Negative No. 24,077).

Trout which weighed 4 3/4 lbs.
with rod on belly, fins & tail shot
(not a sea-run trout).

Morris's Lake, Pennant, Hx. Co.
aged 12 or 15 years ago, in
May.

Caught by right-hand
Thos Reardon ([illegible])

Told me 23 Feb. 1916.

Figure 80. Original note by Harry Piers dated 23 February 1916 concerning 4 3/4 lb trout caught 12 or 13 years previous at Morris's Lake, Pennant, Halifax Co., N. S. (Negative No.24,076).

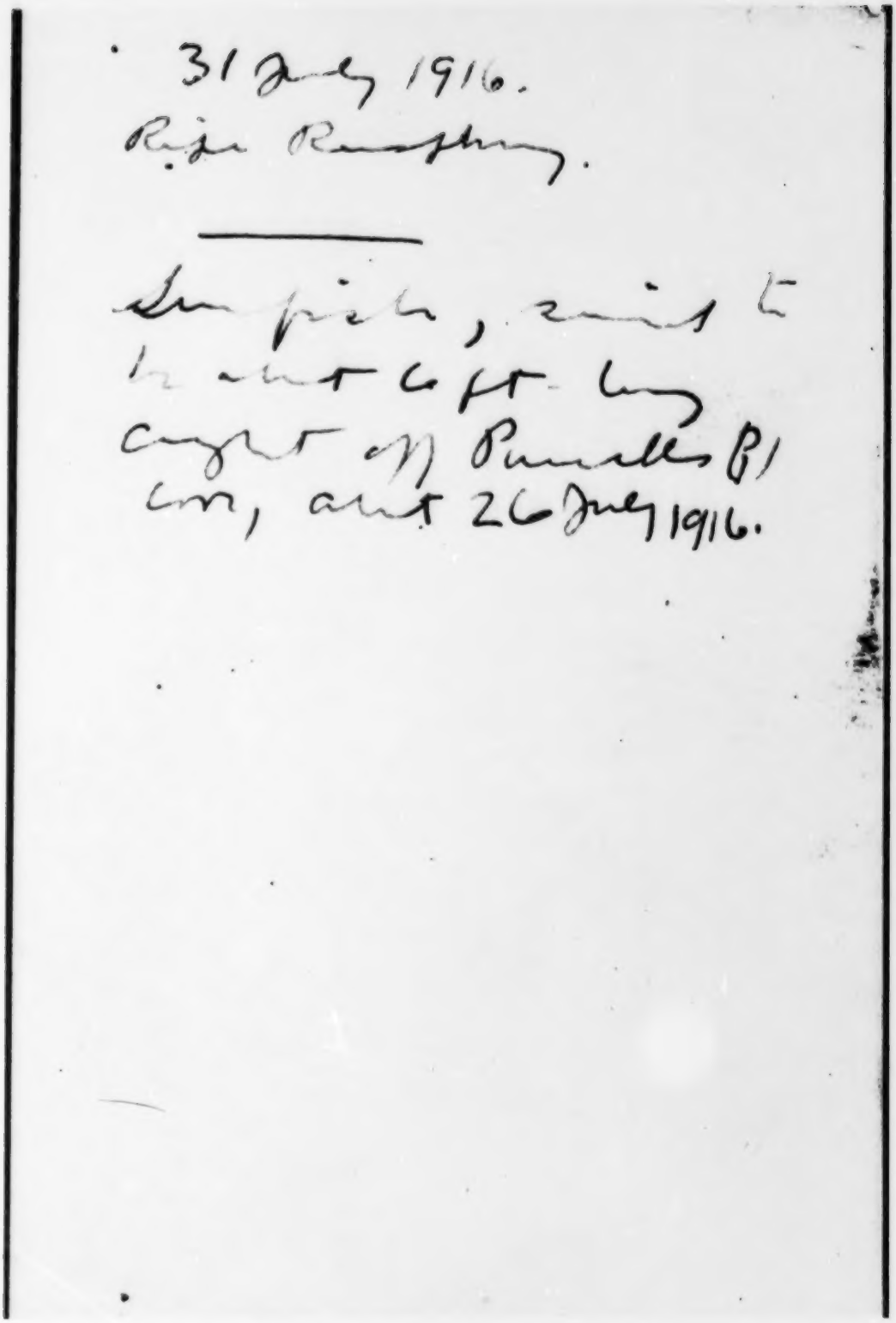


Figure 81. Original note by Harry Piers concerning the capture of a Sunfish 6 feet long off Purcells Cove, Halifax Co., N. S. 26 July 1916 (Negative No. 24,075).

Fish.

Gaspereau.

Lone Island says (27 Apr. 17) that Gaspereau
leave there at Eleuthera first week a
week ago (say about 22 April 1917). He
showed me a pair truly he got Cunt night
at Eleuthera. He says they were taken
by drifting (drift net) in the bay off Rocklets
about a fortnight ago (say about 14 April).

Conkin (Pidgeon) of Shark Bay, near Delight, says (about 11 Apr. 17) that
Gaspereau have not been taken there yet,
but that they will strike in in about a week's
time.

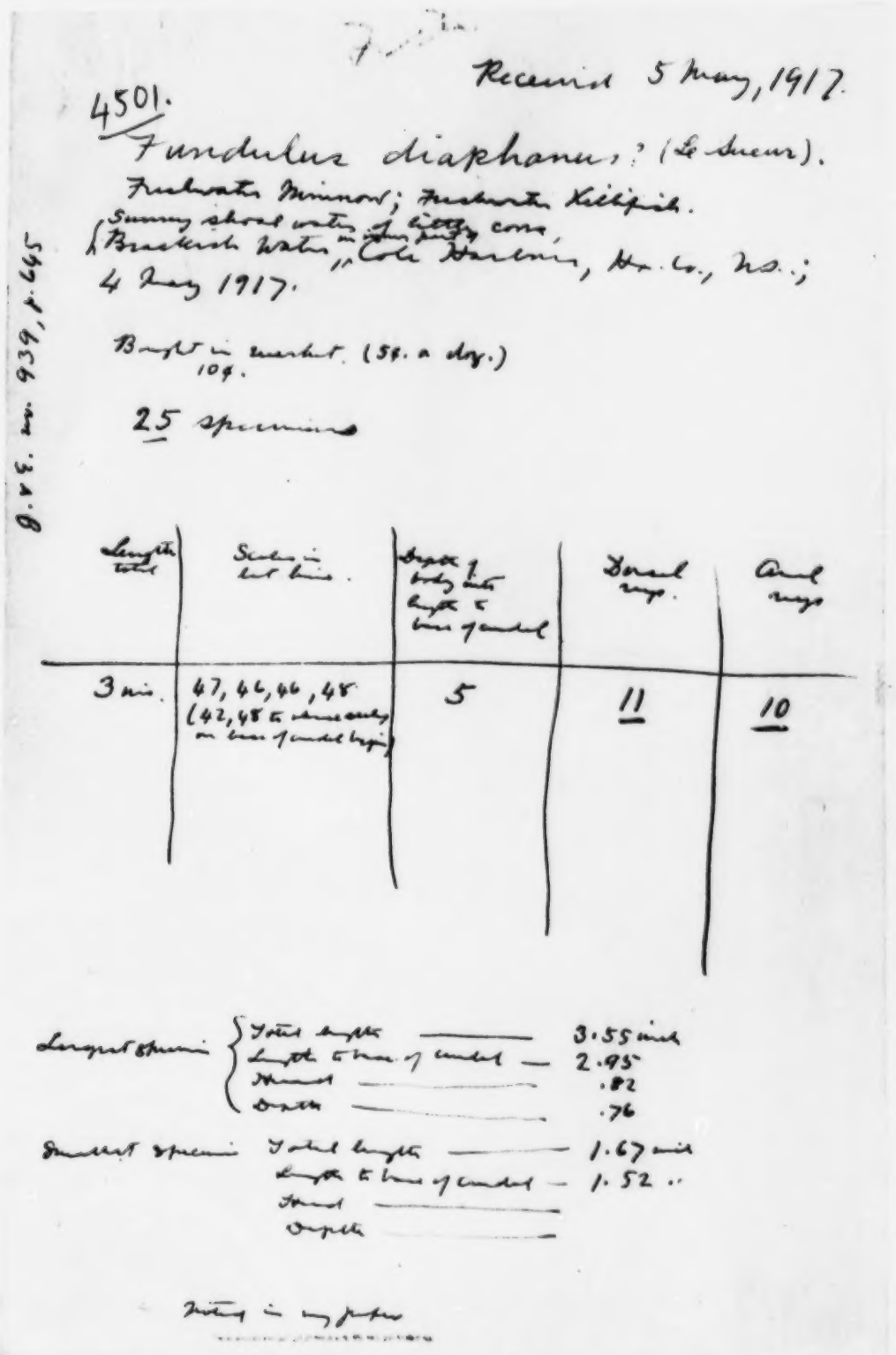
Conkin had Codfish from Shark Bay.

He says Haddock will strike in
at Shark Bay in about 2 weeks time from
20 April 1917.

He says only 2 or 3 Herring have
been taken there yet (not enough for
bait).

Gaspereau. — Bowlein (formerly of St. Georges
Bay Nfld) says that he has seen Gaspereau coming
down 9 mile River after being spawned, very thin &
poor, in mid Sept. or Oct. He says they will then
take on artificial fly like a trout. They spawn in
Fresh Lake & also as far as they can go, to Cox's Lake
near Hammond's Plains. If too much water is
running, they sometimes find it difficult to ascend
obstructions & also if the water is too Cold.

Figure 82. Original note by Harry Piers concerning Gaspereau, Atlantic Cod, Haddock and Atlantic Herring 27 April 1917 (Negative No. 24,053)



Received 5 May, 1917.

4501.

Fundulus diaphanus? (Le Sueur).

Freshwater Minnow; Freshwater Killifish.

Sunny shoal water in [illegible] cove,
Brackish water in [illegible]
" Cole Harbour, Ha. Co., N.S.;
4 May 1917.

Bought in market (5¢. a doz.)
10¢.

25 specimens

G.S.N. no. 939, p. 445

Length total	Scales in lat. line.	Depth of body into length of head	Dorsal rays.	Anal rays
3 ins.	47, 44, 46, 48 (42, 48 in those only on one side of body)	5	11	10

Largest specimen
- Total length — 3.55 ins.
- Length to base of caudal — 2.95
- Head — .82
- Depth — .76

Smallest specimen
- Total length — 1.67 ins.
- Length to base of caudal — 1.52 "
- Head —
- Depth —

Note in my paper

Figure 83. Original note by Harry Piers concerning 25 specimens of Banded Killifish, Fundulus diaphanus, *captured at inner part of Cole Harbour, Halifax Co., N. S. on 4 May 1917 (Museum No. 4501, Negative No. 24,760).*

4502

Received 5 May 1917.

Menidia menidia notata (Mitchill).

Common Silverside

(Called "Sprat" by men who sell them).

On sandy spots in shallow parts of channel, in brackish water, Cole Harbour, Hfx. Co., N.S.; 4 May 1917.

J. E. P., no. 1166, p. 800.

First appeared about 21 of April, and remain about a month at least [probably to spawn].

Purchased for use in market.
@ 20¢. (5¢. a dz.)

48 specimens.

	Largest specimen	Smallest specimen
Total length	5.52 in.	4.04 in.
Length to base of caudal	4.70	3.42
Head	1.06 (4 7/2 times in length to base of caudal)	.76 (4 5/8 times in length to base of caudal)
Eye (longitudinal diameter)	.28	.22
Depth of body	.80	.65
1st dorsal rays	IV, 4	IV, 4
2nd "	I, 8	I, 8
Pectoral	1st ray about 1/3 length of fin; 3rd ray longest	(1st ray short, 3rd ray longest)
Ventral	13	13
Anal	6	6
Scales in lateral line	I, 20	I, 22.
	48	47

Colors when fresh:-
"Back greyish olivaceous, punctulated with persons; head darker on top at about nape, all punctulated with persons, darkest over eye. Lateral stripe (1/2 longitudinal diameter of eye and about 1 1/4 width of pupil) bluish silvery, margined above by conspicuous narrow dark line. This lateral stripe is not 1 scale wide. It shows as a dark line when fish is held up to light. Opercles and belly from throat to anal, silvery with brilliant colours, opercles blue, yellowish and salmon.

Entered in my Check Book.

Figure 84. Original note by Harry Piers concerning 48 specimens of Atlantic Silverside, Menidia menidia, *captured at Cole Harbour, Halifax Co., N. S. 4 May 1917 (Museum No. 4502, Negative No. 24,763).*

17 May 1917.

Grayling, at Grand Lake, N.S.
Vide D. L. Smeltzer.

About 12 May 1917, D. L. Smeltzer got a Grayling, length 27 ins, weight 4 1/4 lbs., at Rapids at "Scotchman's Camp", Shubenacadie, a little below where the river leaves Grand Lake.

He says Graylings are caught through the ice in winter in Grand Lake.

Sometimes about now will leave to let him out to fish daytime, as fish may not bite, as top water is cold. He says the best Grayling fishing is later than now, in the lake.

Says Graylings are found in Dartmouth Lakes from Fall River (near Waverly) to Grand Lake.

Also in Long Lake near Grand Lake; and in Lakes near Kinsac (in Beaver Bank district).

Bass. In Grand Lake, N.S.

Said that Archie Horne once found a dead Bass which weighed 42 lbs. on shore of Grand Lake; also said that Archie Horne caught one (alive), in net probably, which weighed 39 lbs. Smeltzer once got a Bass which weighed 17 lbs.

Best time to fish for them (bass) is from about 1st to about 20th July. Fishes usually late evening Bass with a hand-line, trailing with a minnow 6 or 7 inches long, a spoon-bait, &c. For about one salmon gear, with minnow, trailing. As soon as struck, they go right to the bottom. Last year a man got 4 bass, one of which weighed 6 lbs and another 4 lbs. Thinks they have been taken through the ice

Figure 85. Original note by Harry Piers dated 17 May 1917 concerning the capture of a 4 1/4 lb. Grayling (Landlocked Salmon) at Grand Lake and 42 lb. Striped Bass found dead on shore of Grand Lake, Halifax Co., N. S. (Negative No. 24,052).

Fresh

Smelts at head of Grand Lake.

About March 1918, a good many extra
large Smelts were netted at head of Grand Lake,
at King's place, Wellington, Hx. Co., N.S.
Oct. 8th Bradley Smith got some, and Lew Cloud
had some and assures me they were Smelt
rather than Smelt. They had more breed of
Smelts big three lapse.

With Jerry Lew Cloud, Smelt,
15 Nov. 1918.

PLATE 91

Figure 86. Original note by Harry Piers concerning the capture of large Rainbow Smelt, Osmerus mordax, *at Wellington, Grand Lake, Halifax Co., N. S. about March 1918 (Negative No. 24,761).*

4622.

Received 6 July 1918.

Family Cyprinidae (Minnows)

Notropis cornutus (Mitchill), var. frontalis (Agassiz).

= N. megalops (Rafinesque)

Shiner; Red-fin; Dace.

Taken with artificial fly, at southwestern extremity of Wright's Lake, where North East River flows out of the lake, in south of Pockwock P.O., Hammond's Plains District, Halifax Co., N.S., about end of June, 1918.

James T. Thomson (coll., Hants)
Spring Garden Road, Hx.
per Jas. Egan.

2 specimens.

Eye 4½ in head. Head 4 1/6 in length (to base of caudal); depth 3 4/9 in length.

Scales 7 or 8 (last l. l. to dorsal) — 4 3 in last. lat. — 4 or 5 (last l. l. to anal). 11 or 12 scales before dorsal.

Dorsal, 9 (in both specimens) rays; and 9 rays (in both specimens)

Pharyngeal teeth 2, 4-4, 2 (specimen B)

	Specimen A	B
Total length	5.55	5.50
Length to base of caudal	4.60	4.53
Head	1.12	1.10
Eye	.25	.24
Depth	1.27	1.23

Apparently there were a number of these fish there. Mr. Thomson says they were very pretty when taken out of the water, but faded afterwards. There are other notes and a few of specimens and original sketch of belly, of one specimen.

Figure 87. Original note by Harry Piers concerning 2 Common Shiner captured at Wright Lake, Halifax Co., N. S. About end of June 1918 (Museum No. 4622, Negative No. 24,067).

Fish.

Received 15 Nov. 1918.

V 4675. J.E.M. 1097.

Pygosteus pungitius (Linnaeus).
Nine-spined Stickleback.

Taken in small brook (locally known as "Skating Pond Brook," which flows from so-called "Skating Pond") at Indian reservation & settlement, 1 mile SE. of Elmsdale station, Hx. Co., N.S.; 13 Nov. 1918.

Jerry Lewis - aboard (c.d.)
Dartmouth

1 specimen.

Total length, 1.67 inch; length to base of caudal 1.43; head .42; depth .25; Head in length, 3.40; depth in length, 5.72. (exclusive of caudal fin);

Fin formula: Dorsal VIII - I, 10; Pectoral, 10; Anal, I, 9; Caudal, 12.

Ventral spine, length .14 (about 1/3 length of head)

Colour (alive). - Olivaceous above; punctulate and blotched and irregularly barred with fuscous. Under parts silvery, brightest on lower posterior sides of head.

Seems to show a tendency towards P. pungitius brachycoda (Peters)

Figure 88. Original note by Harry Piers concerning one specimen of Ninespine Stickleback captured 1 mile SE of Elmsdale Station, Halifax Co., N. S. on 13 November 1918 (Museum No. 4675, Negative No. 24,758).

Fish

No. 3013 of Jordan & Evermann

Limanda ferruginea (Storer)

Rusty Dab; "Sole" (Halifax fish market)

Bought at Boutilier's fish market, Halifax, [illegible] 9th Jan. 1920.

Total Length about 15 inches.

Preopercle obscured (?) by scales.

Eyes on right side.

Mouth twisted a little to blind side.

Teeth present, many cilia on both sides.

Vertebrae similar.

Lateral line arched in front.

Dorsal, 85 rays.

Anal, 61 rays.

Colour greyish, spotted with red-brown; underside whitish.

Head not in it.

Figure 89. Original note by Harry Piers concerning Yellowtail Flounder, Pleuronectes ferrugineus, *bought at fish market in Halifax 9 January 1920 (Negative No. 24,070).*

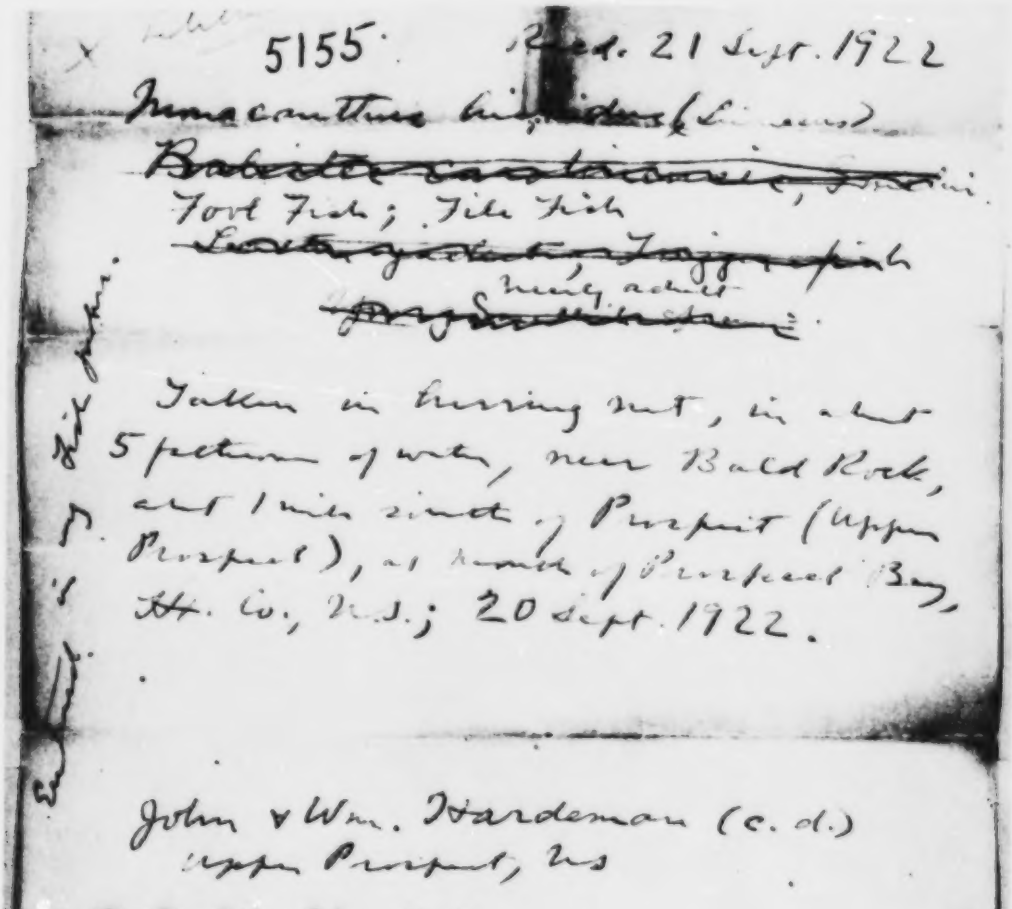
Fish.

"Smelts" were caught about
27 March 1920, about Kinsfolks,
at head of Grand Lake, near
Wellington station, Hf. Co. They
are very big ("nearly as big as a herring").
Caught first through ice and now
(about 17 April) in nets. A man who
lived Lunenburg way there, claims they
are there all winter. Lunenburg has
not yet seen them.

Vide Lunenburg Progress,
17 April 1920.

Are these really Smelts?

Figure 90. Original note by Harry Piers concerning the capture of Rainbow Smelt, Osmerus mordax, *near Wellington, Grand Lake, Halifax Co., N. S. About 27 March 1920 (Negative No. 24,759).*



5155. Rec'd. 21 Sept. 1922

Monacanthus hispidus (Linn.)

~~Balistes carolinensis, Gmel.~~

Fool Fish; File Fish

~~Leather-jacket; Trigger-fish~~

newly added

~~Drag Sailor-fish~~

File fishes.

Taken in herring net, in about 5 fathoms of water, near Bald Rock, about 1 mile south of Prospect (Upper Prospect), at mouth of Prospect Bay, Halifax Co., N.S.; 20 Sept. 1922.

John & Wm. Hardeman (c. d.)
Upper Prospect, NS

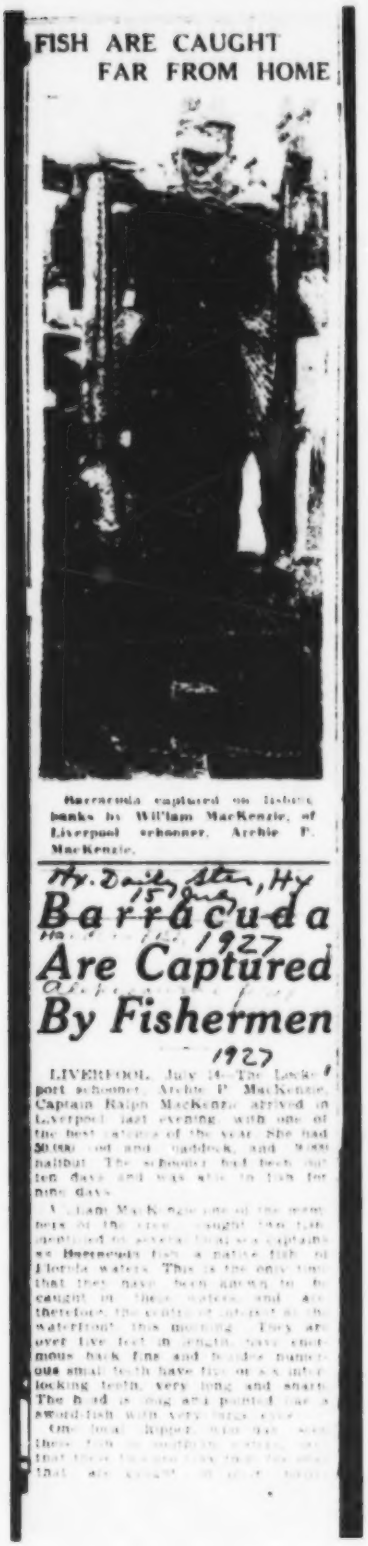
D.I-32, 31, P. 14.

1 specimen

Accidental occurrence.
(by D. H. Jones)
Only one reported, from Nova Scotia waters, namely in St. Margaret's Bay, in autumn of 1861 (see Jones, Trans. N.S.I.N.S., vol. 1, pt 1, 1863, p. 53). Rev. John Andrew and others cit. by D. H. Jones.

Dorsal spine high; skin with minute rough asperities - like sandpaper; pubic bone present (small, rounded); gill-slit short, nearly vertical.
Total length, 5·00 in.; length to end of vertebrae, 4·00; depth, 2·25; head, 1·25. Head in length 3·2 times; depth 1·77.
Colour creamy white, more or less mottled with olivaceous and spotted with brown. Iris olivaceous yellow. - Can very rapidly change colour to a shiny bluish-grey olivaceous; or pattern to a general olivaceous colour, speckled or blotched with dark olivaceous & brown, & also spotted with cream. Dark olivaceous dusky bands are evident.

Figure 91. Original note by Harry Piers concerning one specimen of Planehead Filefish, Monacanthus hispidus, *captured 1 mile south of Prospect on 20 September 1922 (Museum No. 5155, Negative No.24,756).*



FISH ARE CAUGHT
FAR FROM HOME

Barracuda captured on fishing banks by William MacKenzie, of Liverpool schooner, Archie P. MacKenzie.

Hx. Daily Star, Hy 15 July 1927

Barracuda Are Captured By Fishermen

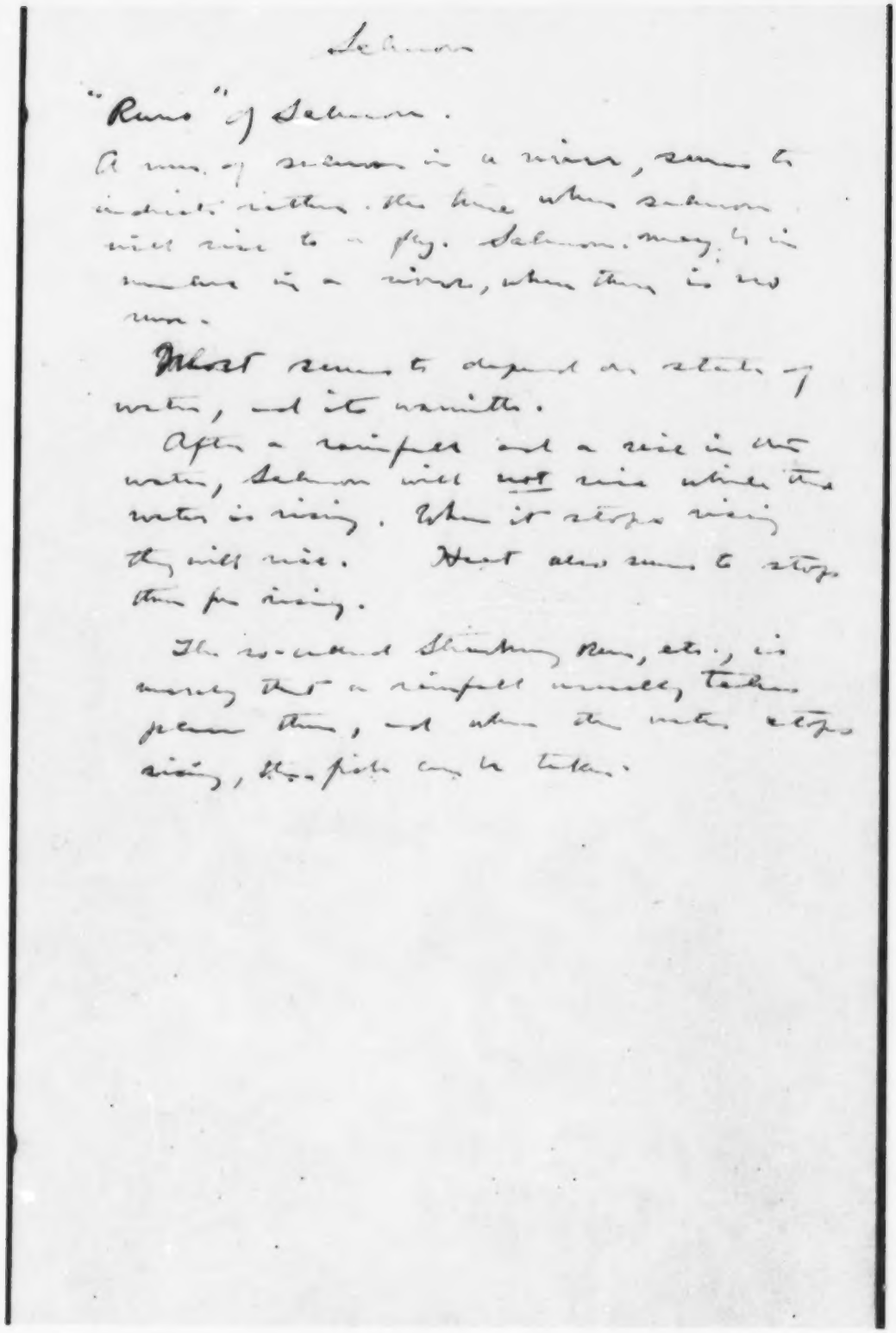
1927

LIVERPOOL, July 14—The Lockeport schooner, Archie P. MacKenzie, Captain Ralph MacKenzie arrived in Liverpool last evening with one of the best catches of the year. She had 50,000 cod and haddock, and 9,000 halibut. The schooner had been out ten days and was able to fish for nine days.

William MacKenzie one of the members of the crew, caught two barracouta or Barracuda fish, a native fish of Florida waters. This is the only time that they have been known to be caught in these waters and are therefore the centre of interest in waterfront this morning. They are over five feet in length, very enormous back fins and besides numerous small teeth have five or six interlocking teeth, very long and sharp. The head is long and pointed like a sword-fish with very large eyes.

One local expert who has seen these fish in southern waters, says that these barracouta have come up with the warm current that are known to [illegible]

Figure 92. Record of 2 Longnose Lancetfish (Handsaw Fish) from fishing banks off Nova Scotia reported in Halifax Daily Star, 15 July 1927 (Negative No. 24,055).



Salmon

"Runs" of Salmon.

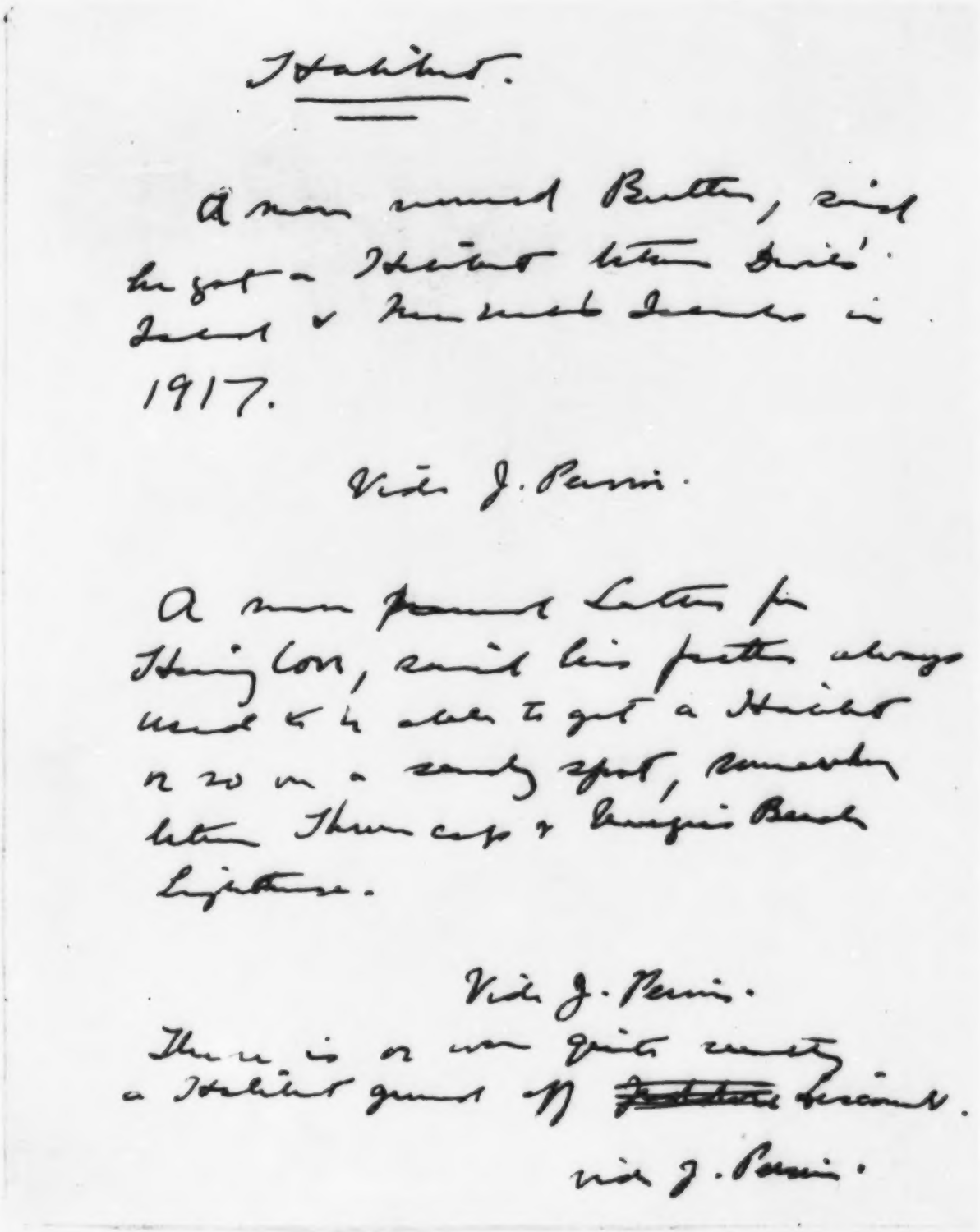
A run of salmon in a river, seems to indicate nothing. The time when salmon will rise to a fly. Salmon may be in numbers in a river, when there is no run.

What seems to depend on state of water, and its warmth.

After a rainfall and a rise in the water, salmon will not rise while the water is rising. When it stops rising they will rise. Heat also seems to stop them for rising.

The so-called Spawning Run, etc., is merely that a rainfall usually, takes place then, and when the water stops rising, then fish can be taken.

Figure 93. Original undated note by Harry Piers concerning "Runs" of Salmon (Negative No. 24,071).



Halibut.

A man named Burton, said he got a Halibut between Devil's Island & Kennedy Island in 1917.

Vide J. Perrin.

A man named Carter from Haida Gwaii, said his father always used to like to get a Halibut on a long spoon, somewhere between Thrumcap & Langara Rock Lighthouse.

Vide J. Perrin.

There is or was quite recently a Halibut ground off ~~Rockfish~~ Sarcanet.

Vide J. Perrin.

Figure 94. Original undated note by Harry Piers on Halibut records provided by Joseph Perrin (Negative No.24,762).

Large specimen is doubtless Exocoetus
tahiensis, Ranzani. (which is common
of flying-fish in tropical seas north to Cuba).

Specimen opened along belly is Exocoetus
rondeletii (Cuvier & Valenc.) (which
is not uncommon in the West Indies).

The unopened smaller specimen is
apparently either Exocoetus heterurus
or E. lutkeni, although I am not
entirely satisfied with the identification. It agrees
with the two dried specimens in the
Museum. The base of the anal fin is
just half length of base of dorsal; although
I noted that it might be E. volitans;
although J & E. point of volitans above
the base of anal only one half which
will go 1½ times in base of dorsal.

Figure 95. Original undated note on Flyingfish (Negative No. 24,046).

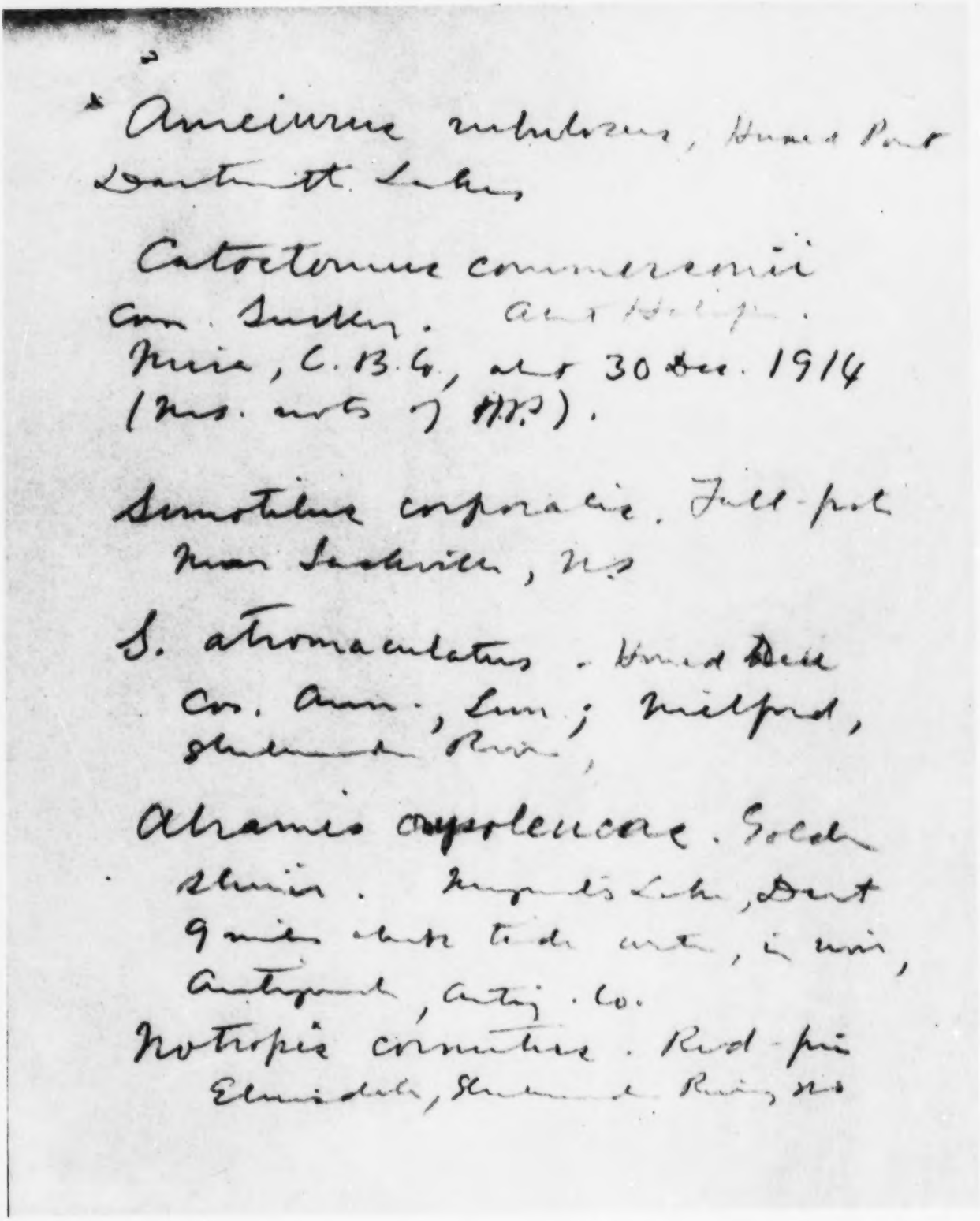
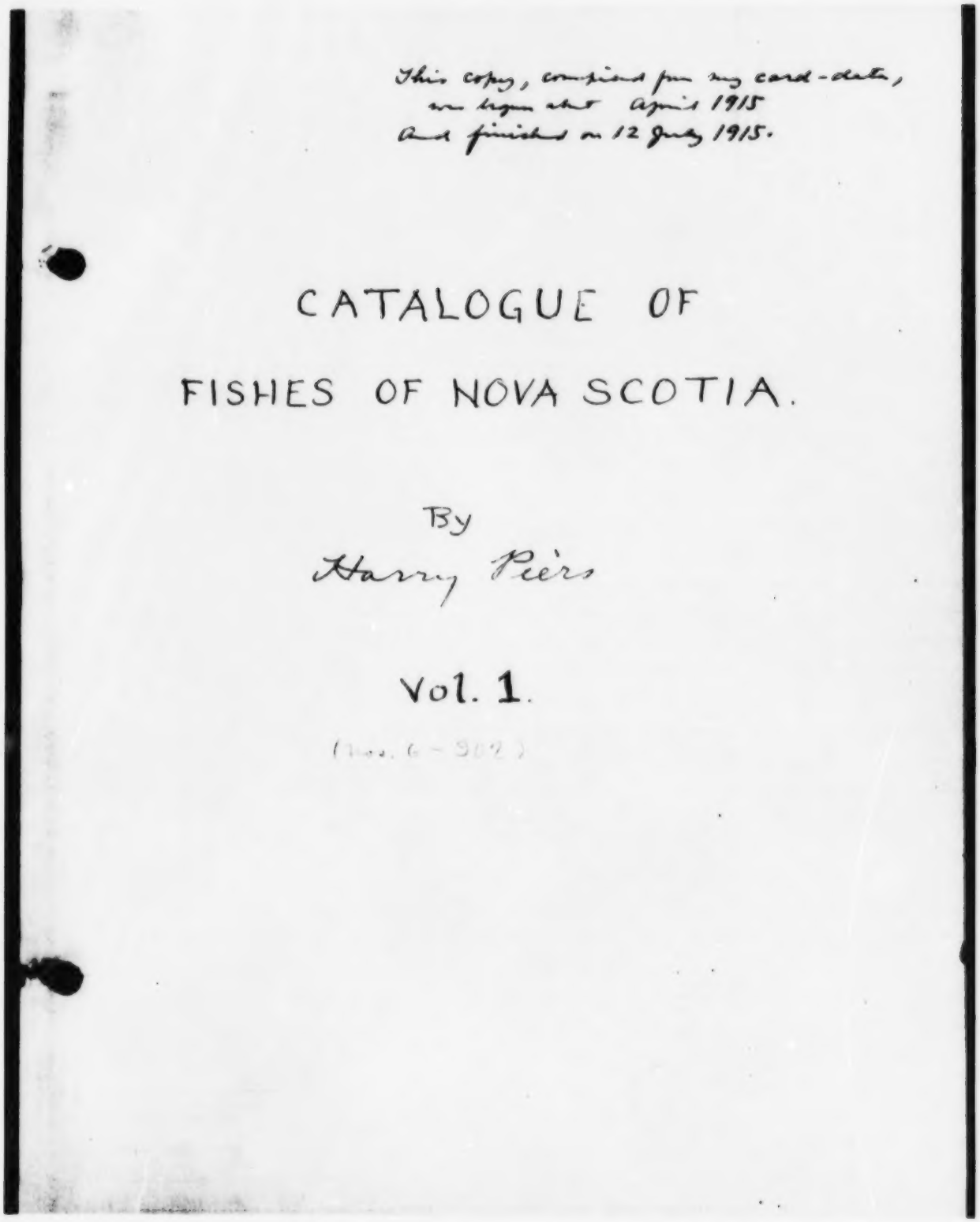


Figure 96. Original undated note on various freshwater fishes (Negative No. 24,074).



This copy, compiled from my card-data,
was begun about April 1915
and finished on 12 July 1915.

CATALOGUE OF

FISHES OF NOVA SCOTIA.

By

Harry Piers

Vol. 1.

(Nos. 6 - 302)

Figure 97. Title page from Volume I of Harry Piers's Catalogue of Fish of Nova Scotia (Negative No.24,059).

Rough contents of Volumes

Vol 1, nos. 6 – 902.

147. Shingum
355. Cusk (Gyprinidae)
574. Eel
685 Herring
691. Alewife
693. Shad
778-783. Salmon + Trout
793. Smelt.

Vol. 2, nos. 932 – 1985.

1252. Haddock
1257. Albacore.
1282. Sandpike
1368. "Golden-pike"
1915. Perch.
1530. Bass.
1984. Cunner.

Vol. 3, nos. ~~2116~~ 2116 – 2937.

2174. "Jonny Haddock"
2900. Hake; "White":
2903. Pollack
2908. Tomcod.
2909. Codpike
2912. Haddock
2924-2929. Codling + Hake.
2937. Cusk or "Ling"

Vol. 4, nos. 2976 – end.

2976-7. Mackerel.
3017. Common Flatfish.

Figure 98. Table of Contents of Volumes I to IV of Harry Piers's Catalogue of Fish of Nova Scotia. (Negative No. 24,057).

Fish.

Ann. 19 Aug. 1919.

Dear Piers.

We are doing biological work this summer in St. Marys Bay, and I thought you may stand in need of some material occurring in these waters. Are there certain fishes liable to be found in N. S. areas which you have not yet obtained? If so, please give me their names and I'll be very glad to furnish you with samples should they come near us during the summer.

Have you met with Gasterosteus gladiuscula Cundall? I've satisfied myself it is a good species & can send you some, should you need them, for I am meeting with it here.

How are you getting on with your bit? I wish you could take a few days & run down here. We have a lab. & our boat is constantly making excursions & collections.

Yours very truly.

Philip Cox

Little River, Digby Co. Philip Cox.

July 28/19.

Figure 99. Letter dated 28 July 1919 to Harry Piers from Philip Cox concerning biological work in St. Marys Bay, Digby Co., N. S. (Negative No. 24,769)

Fish.
J. & E. 1102. Apeltes quadracus (Mitchill)
Four-spined Stickleback.

and

Aug. 31 & Sept 1915.

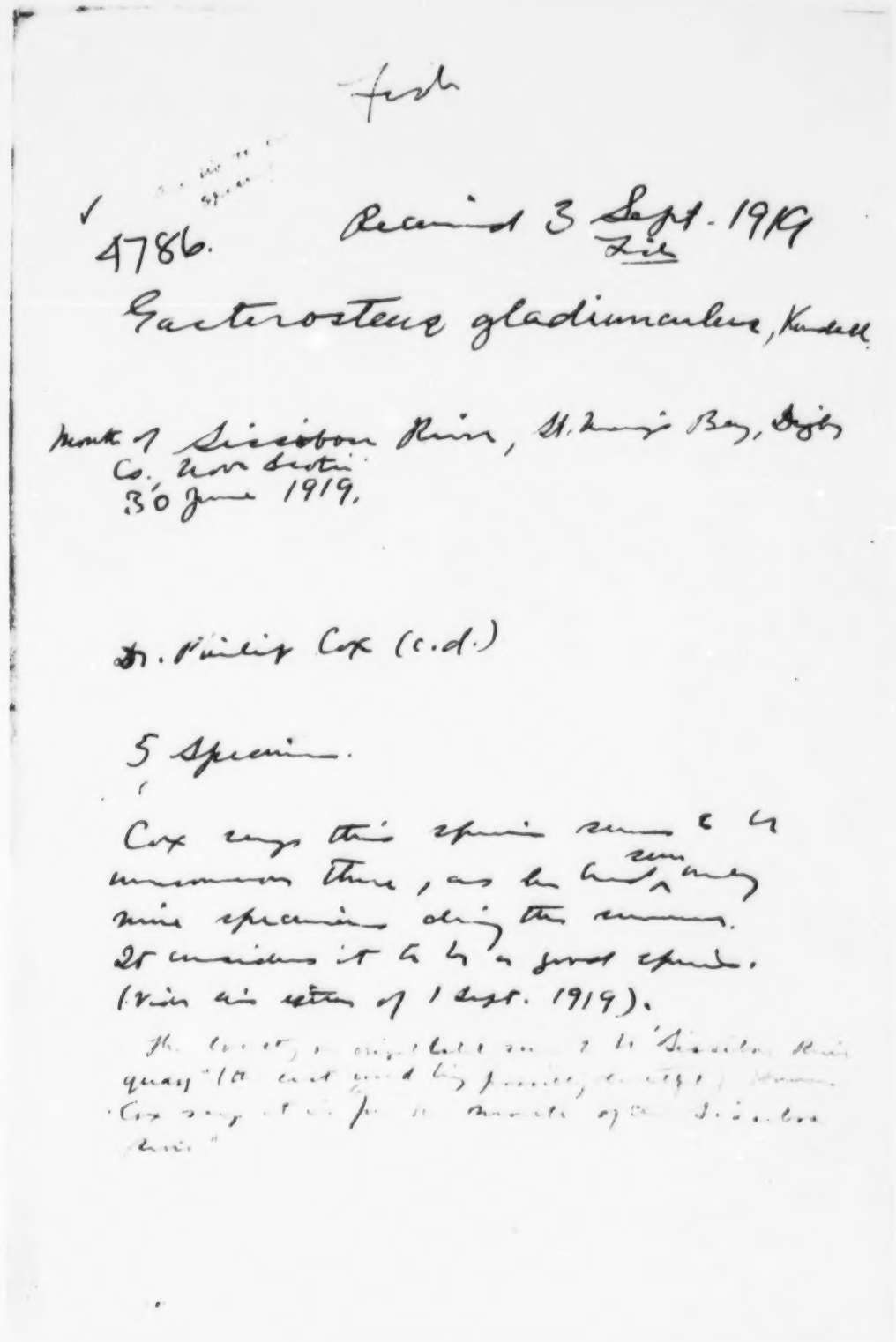
Dear Piers.

After being laid up three weeks with grippe I am able to get about a little but will not resume work before next Monday. The last is severe attack. I saw a specimen of Apeltes quadracus which was taken by one of the staff of the Marine Bio. Station of St Andrews, N.B., in August 1913. I identified it for him. He captured several in a muddy tide pool near Leslie River St. Marys Bay, Nova Scotia, where the Mar. Bio. Station is conducting a Lobster Hatchery. It occurred to me it would not be amiss to let you know as perhaps you may not have taken it. It seems very local in its distribution. I can't find it about Mass. Bay and I know of but one station or two in N.B.

Yours very truly
Philip Cox

St. John N.B.
March. 26/15

Figure 100. Letter dated 26 March 1915 to Harry Piers from Philip Cox concerning Fourspine Stickleback from St. Marys Bay, Digby Co., N. S. (Negative No. 24,771)



fish

4786. Received 3 Sept. 1919

Gasterosteus gladiumaculeus, Kendall

mouth of Sissiboo River, St. Marys Bay, Digby Co. Nova Scotia
30 June 1919.

Dr. Philip Cox (c.d.)

5 Specimens.

Cox says this species seems to be uncommon there, as he has only seen specimens during the summer. He considers it to be a good species. (Vide his letter of 1 Sept. 1919).

Figure 101. Original note by Harry Piers on five specimens of Threespine Stickleback collected at St. Marys Bay, Digby Co., N. S. on 30 June 1919 by Philip Cox (Museum No .4786, Negative No. 24,768)

Fish

Dear Piers.

The Apellis quadracuses I referred to in my last were taken near the mouth of Little River, St. Mary's Bay, N.S., in the vicinity of the Lobster Hatchery established there a year ago.

Yours Apl 26/15 Jacers my last Letter

PLATE 107

Figure 102. Letter dated 26 April 1915 to Harry Piers from Philip Cox concerning Fourspine Stickleback from St. Marys Bay, Digby Co., N. S (Negative No. 24,770)

Accession Number	Scientific Name	Common Name	Department and Phylum
7508	Upper lateral tooth of Carcharodon carcharias (Linn.)	Man-eater Shark.	Fish

Particulars of the unprovoked attack made by this shark off Victoria Beach, Ann Co., N.S., July, 1932.—
This shark attacked Wilson Munroe's 25-ft. motor-boat very early in the morning, just after dawn, of a clear day, early in July, 1932. At the time it was slack water at low tide, and the sea quite calm. Munroe and his young son, in this 25-ft. motor-boat stopped to overhaul their fishing trawls. The shark at first circled around another boat about a quarter of a mile away. Then, without the slightest provocation it wantonly attacked Munroe's boat, which was suddenly bore-up forward on the starboard (right) side; which pushed the boat down aft & port (left), both Munroe and his son being aft at the time, & tend the trawls. When the boat thus went down aft, water sloshed in over the port-quarter gunnel. Capt. Elmer Morgan in his report says that Munroe could not get a sight of the fish, and did not know what it was that had disturbed the boat; although Munroe writes me that "as soon as I could tell the shark was about thirty feet long." Most likely he did not see it, and merely surmised its length. The fish, with a number of bumps against the boat, worked its way aft, under the starboard (right) bilge; and then got clear of the boat. Some say he returned the attack more than once, but this is not probable, as not mentioned by Capt. Morgan. It may have appeared to it having been primarily after the other boat. — When the Munroes got ashore and examined the boat, they found that the fish had bent the blades of the 3-bladed propeller and in doing so had likely been cut by them before getting away. The boat was not particularly damaged, but some of the animal's teeth were left in the keel or one of the under strakes (boards); and one of these is the present specimen (No. 7508).
The men suppose that the shark was feeding on fish hooked on the trawls, when the boat came along and interrupted him. (This account is almost entirely based on the verbal account by Capt. Elmer Morgan, fishery inspector, of Bear River, Ann. Co., who was at Victoria Beach a day or two after the incident, and who gave the particulars in 21 Jan./33, to J.W.D. Stearns of the "Spectator", Annapolis, for any information.

This shark no doubt taken off Campobello Island, New Brunswick, shortly before 23 Nov., 1932. — In the latter part of (shortly before 23rd) of November, of the same year, 1932, a large shark "the first of its kind ever taken in local waters", and measuring 26 ft. in length, 3,000 lbs. in weight, about 6 ft. in diameter of thickest part of body, and with

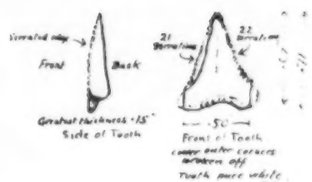
Locality and When Collected	Collector (c) Donor (d)	Received 1932	No. of Specimens	Remarks
Found embedded in the wood of the under-water part of a 25 ft. motor-boat belonging to Wilson Munroe, fisherman, and his young son, which boat had been unprovokedly attacked by the shark, on a bottom of rocks, water [illegible] off Victoria Beach, about 10 miles inland of Digby Gut, while they were tending their trawls, Victoria Beach, Digby Gut, Ann. Co., Nova Scotia, just after dawn, about 10 July, 1932. (The locality would be about lat. 44°47', long. 65°51'; as to the date. Capt. Morgan says it was in July. An item about it appeared in a Halifax newspaper, and on 27 July/33, that 10 days or so after the item appeared, I wrote to W. Munroe for particulars, as that 3 weeks was 10th July in a memorandum for the enumerator.)	Wilson Munroe (c.d.) fisherman, Victoria Beach, Ann. Co., NS	2 Nov.	1	

Verification of the identification.—
A. Pierre identified the tooth as belonging to Carcharodon carcharias (Linn), Man-eater shark, but owing to the rarity of the species as per words, wished to have his determination authenticated, verified, and compared on 9 Nov./32 and the tooth to U.S. Bureau of Fisheries, Wash., D.C., which reported it to the U.S. National Museum, Wash. On 5 Dec./32, the Nat. Museum reported that the tooth had been examined by Mr. Earl S. Reid, Aid in the Division of Fishes, who made the following report concerning it:
"Mr. Pierre is quite correct in identifying the accompanying tooth as that of the 'Man-eater' shark, (Carcharodon carcharias (Linn.)). I have compared the specimen with a jaw of this species in our collections and find that the tooth corresponds exactly with the upper lateral teeth near the posterior angle of the jaws of a specimen not more than fifteen feet in length." This report from the Nat. Museum, positively confirms the identification.

Range of Species — Jordan & Evermann, Fishes of N. A., 1896, pt. 1, p. 50: "Found in cold temperate and tropical seas, and is occasionally taken on our coasts, both in the Atlantic and the Pacific (Europe)." — Bean, Cat. of Fishes of New York, 1903, p. 41: "Found in temperate and tropical parts of the Atlantic and Pacific oceans, but is rare in New York waters." Rare at the mouth of the Potomac, Annapolis, Md., 16 June, 1848. — Bigelow, Fishes of Gulf of Maine, 1925, p. 39-40: "Cosmopolitan in tropical and warm-temperate seas, straying northward at rare intervals as far as New England and commonly to Banquereau Bank off eastern Nova Scotia (Putnam, Bull. Essex Inst., vol. 6, 1874, p. 72). It is apparently rare anywhere ... the only sharks likely to attack human beings." — Breder, Field Book of Fishes, 1929, p. 22: "A comparatively rare form of tropical and sub-tropical seas occasionally straggling northward as far as coast of Nova Scotia ... One of the largest and most powerful of existing fishes ... the few definite and authentic records of sharks attacking men all refer to this single species ... Feeds on large fishes and sea turtles ... Reaches a length of 40 ft. or more."

Occurrences recorded on Atlantic Coast of N.A., from New Jersey, lat. 40°30' northward (see Goode, Fishes of Mass. Bull. of Essex Inst., 1884, p. 671; Bigelow, Fishes of Gulf of Maine, 1925, p. 40; and Putnam, Bull. Essex Inst., vol. 6, 1874, p. 72):

Date	Locality	Approx. Latitude	Number	Remarks
Between 1820-30	Massachusetts Bay, Mass.	about 42°25'	2	One 6 ft. long, the other 9 ft. long. Skin stuffed, noted by Storer, 1884, p. 671.
Many years ago	do.	do.	1	7 ft. 2½ in. long. Figured by Samuels, Memoirs, Boston Soc. Zoology, Mammals, vol. 36, 1913, pl. 5, figs. 5-9.
June, 1848	Provincetown, Cape Cod, Mass.	42°05'	1	13 ft. long, brought to Boston for exhibition. Vide Storer, quoted by Goode, 1884, p. 671. Storer denied it under name of C. atrocaudatus.
Aug., 1872	Eastport, Maine,	44°55'	1	
About 1873.	"St. Peter's Bank" (mem).		1	Told J.W. Putnam, Bull. Essex Inst., Salem, 20 Apr. 1876, vol. 6, p. 72. The fish had recently attacked a dory in which were two fishermen "Affords a specimen of the Carcharias (Carcharodon) Linnæi, or a closely related species."
"Many years ago"	"Banquereau Bank off eastern Nova Scotia"	About 43° (Lat. 43°35')	1	About 13 ft. long, which attacked a fisherman in a dory (Putnam, Bull. Essex Inst., vol. 6, 1874, p. 72). Per Bigelow, Fishes of Gulf of Maine, 1913, p. 40.

Scientific Name	Common Name	Department and Phylum	Locality and When Collected	Collector (c) Donor (d)	Received 1932	No. of Specimens	Remarks
Upper Lateral tooth of Carcharodon carcharias (Linn.)	Man-eater Shark.	Fish	Found embedded in the wood of the under-water part of a 25-ft. motor-boat belonging to Wilson Munroe, fisherman, and his young son, which boat had been unprovokedly attacked by the shark, while they were tending their trawls, in 40 fathoms of water, some 70 miles S.E. by E. from Victoria Beach, Digby Gut, Ann. Co., Nova Scotia, just after dawn, about 10 July, 1932. (The locality is said to be lat. 44°47', long. 65°51'; the date. Capt. Morgan says it was in July. An item was reported in a Halifax newspaper, and on 27 July/33, that 10 days or so after the item appeared, I wrote to W. Munroe for particulars, so that 3 days after 10 July is a correct date for the occurrence.)	Wilson Munroe (c.d.), fisherman, Victoria Beach, Ann. Co., NS	2 Nov.	1	

Particulars of the unprovoked attack made by this shark off Victoria Beach, Ann Co., N.S., July, 1932. — The shark attacked Wilson Munroe's 25-ft. motor-boat very early in the morning, just after dawn, of [illegible] day, early in July, 1932. At the time it was slack water at low tide, and the sea was calm. Munroe and his young son, in this 25-ft. motor-boat stopped to overhaul their fishing trawls. The shark at first circled around another boat about a quarter of a mile away. Then, without the slightest provocation it wantonly attacked Munroe's boat, which it suddenly bore up forward on the starboard (right) side; which pushed the boat down aft on port (left), both Munroe and his son being aft at the time, to tend the trawls. When the boat thus sat down aft, water slopped in over the port-quarter gunnel. Capt. Elmer Morgan in his report says that Munroe could not get a sight of the fish, and did not know what it was that had disturbed the boat; although Munroe writes me that "as near as I could tell the shark was about thirty feet long." Most likely he did not see it, and merely surmised its length. The fish, with a number of thumps against the boat, worked its way aft, under the starboard (port) bilge; and then got clear of the boat. Some say he witnessed the attack more than once, but this is not probable, as it is not mentioned by Capt. Morgan. It may have appeared [illegible] about the other boat. — When the Munroes got ashore and examined their boat, they found that the fish had bent the blades of the 3-bladed propeller and doing so had likely been cut by them before getting away. The boat was not particularly damaged, but some of the animal's teeth were left in the keel or [illegible] of the under structure (wounds); and one of these is the present specimen (No. 7508). The men suppose that the shark was feeding on fish hooked on the trawls, when the boat came along and interrupted him. (This account is almost entirely based on the verbal account by Capt. Elmer Morgan, fishery inspector, of Bear River, Ann. Co., who [illegible] of Victoria Beach a day or two after the incident, and who gave the particulars in 21 Jan./33, and W.D. Steeves of the "Spectator", Annapolis, for any information.

This shark no doubt taken 4 months later at Campobello Island, New Brunswick, only before 23 Nov., 1932. — In the latter part of (shortly before 23 rd.) of November, of same year, 1932, a large shark "the first of its kind ever taken in local waters", was measured 18 ft. in length, 3,000 lbs. in weight, about 6 ft. in diameter of thickest part of body, and with

Range of Species — Jordan & Evermann, Fishes of N. A., 1896, pt. 1, p. 50: "Found in cool temperate and tropical seas, and is commonly taken on our coasts, both in the Atlantic and the Pacific oceans, but is rare in New York waters." Agassiz & the specialty of one taken at Provincetown, Mass., 16 June, 1848. — Bigelow, Fishes of Bay of Maine, 1925, p. 39-40: "Cosmopolitan in tropical and warm-temperate seas, straying northward at rare intervals as far as New England and commonly to Banquereau Bank off eastern Nova Scotia (Putnam, Bull. Essex Inst., vol. 6, 1874, p. 72). It is apparently rare everywhere ... the only sharks likely to attack human beings." — Breder, Field Book of Fishes, 1929, p. 22: "A comparatively rare form of tropical and sub-tropical seas or regions straggling northward on our coast to Nova Scotia ... One of the largest and most powerful of existing fishes ... The jaws depict an authentic record of shoulder attacking man all refer to this single species ... Feeds on large fishes and sea turtles ... Reaches a length of 40 ft. or more."

Occurrences recorded on Atlantic Coast of N.A. from New Jersey, lat. 40°30', northward (see Storer, Fishes of Mass., 1867, p. 371; Goode, Fishery Industries, 1884, p. 671; Bigelow, Fishes of Bay of Maine, 1925, p. 40; and Putnam, Bull. Essex Inst., vol. 6, 1874, p. 72):

Date	Locality	Approx. Latitude	Number	Remarks
Between 1820-30	Massachusetts Bay, Mass.	about 42°30'	2	One 6 ft. long, the other 9 ft. long. Nile Storer, cited by Goode, 1884, p. 671.
Many years ago	do.	do	1	7 ft. 2½ in. long. Figured by Samuel Morris, Boston Comp. Zoology, Memoirs, vol. 36, 1913, pl. 5, figs. 5-9.
June, 1848	Provincetown, Cape Cod, Mass.	42° 05'	1	13 ft. long, brought to Boston for exhibition. Nile Storer, cited by Goode, 1884, p. 671. Storer deemed it under name of C. atlanticus.
Aug., 1872	Eastport, Maine,	44°55'	1	
About 1873.	"St. Peter's Bank" (near).		1	Took. J.W. Putnam, Bull. Essex Inst., Salem, 20 Sept. 1876, vol. 6, p. 72. The fish has recently attacked a dory in which were two fishermen "Adopts a variation of the Carcharias (Phil. Acad.) Lesueur, in a closely related species."
"Many years ago"	"Banquereau Bank off eastern Nova Scotia"	About 45° (Lat. 44°55')	1	About 13 ft. long, which attacked a fisherman in a dory (Putnam, Bull. Essex Inst., vol. 6, 1874, p. 72). See Bigelow, Fishes of Bay of Maine, 1925, p. 40.

25 ft

a clear day, early in July, 1932. At the time it was slack water at low tide, and the sea quite calm. Munroe and his young son, in their 25 ft. motor-boat stopped to overhaul their fishing trawls. The shark at first circled around another boat about a quarter of a mile away. Then, without the slightest provocation it ventually attacked Munroe's boat, which was suddenly hove up forward on the starboard (right) side; which pushed the boat down aft to port (left), both Munroe and his son being aft at the time, to tend the trawls. When the boat thus went down aft, water slopped in over the port-quarter gunnel. Capt. Elmer Morgan in his report says that Munroe could not get a sight of the fish, and did not know what it was that had disturbed the boat; although Munroe writes me that "as near as I could tell the shark was about thirty feet long." Most likely he did not see it, and merely surmised its length. The fish, with a number of bumps against the boat, worked its way aft, under the starboard (right) bilge; and then got clear of the boat. Some say it returned the attack more than once, but this is not probable, nor is it mentioned by Capt. Morgan. It may have referred to its having been [illegible] about the other boat. — When the Munroes got ashore and examined the boat, they found that the fish had bent the blades of the 3-bladed propeller and in doing so had likely been cut by them before getting away. The boat was not particularly damaged, but some of the animal's teeth were left in the keel or one of the under strakes (boards); and one of these is the present specimen (No. 7508).

The men suppose that the shark was feeding on fish hooked on the trawls, when the boat came along and interrupted him. (This account is almost entirely based on the verbal account by Capt. Elmer Morgan, fishery inspector, of Bear River, Annapolis Co., who was at Victoria Beach a day or two after the incident, and who got the particulars on 21 Jan./33, by J.W.D. Steeves of the "Spectator", Annapolis, for any information.

This shark no doubt taken 4 months later at Campobello Island, New Brunswick, shortly before 23 Nov., 1932. — In the latter part of (shortly before 23rd) of November, of the same year, 1932, a large shark "the first of its kind ever taken in local waters", of measuring 26 ft. in length, 3,000 lbs. in weight, about 6 ft. in diameter of thickest part of body, and with a dorsal fin nearly 5 ft. long, was taken in the brush-walls of a "sardine" [spawning herring] weir, at Harbor De Lourtes, Campobello Island (Lat. 44°55', Long. 66°55'), in Passamaquoddy Bay, New Brunswick. It plunged through the weir and became stranded on the shore. Campobello Island is a few miles east of Eastport, Me. (Lat. 44°55'), and about 50 miles, across the Bay of Fundy, westward of Victoria Beach (Lat. 44°40'), N.S., where the same species attack occurred in July. The fish when opened had an enormous liver, "occupying most of the carcass", which yielded seven 50-gallon drums of liver, which exuded great quantities of oil, which was sold to an oil refinery. "It was believed to be the same species of shark which attacked a fisherman's boat in the Bay of Fundy near Digby some months ago." (Vide next item, entitled Deer Island [near Campobello Island], N.B., 23 Nov. 1932). I think there can be hardly any doubt that this was the same fish which attacked the Victoria Beach, N.S., boat about 4 months before.

(Lat. & the date Capt. Morgan says it was in July. The time and it appeared in a Halifax newspaper, on or about 27 July/33, about 10 days or so after the event appeared, I wrote to H. Munroe for particulars, as that I thought and 10th July was a memorable date for the occurrence.)

Verification of the identification —

"H. Piers (developed the teeth as belongs to Carcharodon carcharias (Linn.), Man-eater Shark, but owing to the rarity of the species as per words, wished to have his determination authoritatively verified, and transpired on 9 Nov./32 and the book of U.S. Bureau of Fisheries, Work, 1922, which appeared at the U.S. National Museum, Wash. On 5 Dec./32, the Nat. Museum reported that the teeth had been examined by Mr. Earl S. Reid, Asst. in the Division of Fishes, who made the following report concerning it:

"Mr. Piers is quite correct in identifying the accompanying teeth as those of the 'Man-eater' Shark, (Carcharodon carcharias (Linn.)). I have compared the specimen with a jaw of this species in our collections and find that the teeth corresponds exactly with the upper lateral teeth near the posterior angle of the jaws of a specimen not more than eighteen feet in length." This report from the Nat. Museum, positively confirms the identification.

Range of Species — Jordan & Evermann, Fishes of N. A., 1896, pt. 1, p. 50: "Found in cool temperate and tropical seas, and is occasionally taken on our coasts, both on the Atlantic and the Pacific (Europe)." — Bean, Cat. of Fishes of New York, 1903, p. 41: "Found in temperate and tropical parts of the Atlantic and Pacific Oceans, but is rare in New York waters." Refers to the specimen of one taken at Provincetown, Mass., 16 June, 1848. — Bigelow, Fishes of Bay of Maine, 1925, p. 39-40: "Cosmopolitan in tropical and warm-temperate seas, straying northward at rare intervals as far as New England and casually to Bangereaux Bank off eastern Nova Scotia (Putnam, Bull. Essex Inst., vol 6, 1874, p. 72). It is apparently rare everywhere ... the only shark likely to attack human beings." — Breder, Field Book of Fishes, 1929, p. 22: "A comparatively rare form of tropical and sub-tropical seas occasionally straggling northward as far as coast of Nova Scotia ... One of the largest and most powerful of existing fishes ... The few depicts an authentic record of sharks attacking man all refer to this single species ... Feeds on large fishes and sea turtles ... Reaches a length of 40 ft or more."

Occurrences recorded on Atlantic Coast of N.A., from New Jersey, Lat. 40°30', northward (see Goode, Fishery Industries of the U.S., 1884, p. 671; Bigelow, Fishes of Bay of Maine, 1925, p. 40; and Putnam, Bull. Essex Inst., vol 6, 1874, p. 72).

Date	Locality	Approx. Latitude	Number	Remarks
Between 1820-30	Massachusetts Bay, Mass.	about 42°25'	2	One 6 ft long, the other 9 ft long. Vide Storer, quoted by Goode, 1884, p. 671.
Many years ago	do.	do	1	7 ft. 2½ in. long. Figured by Samuel Morong, Amer. Comp. Zoology, Harvard, vol 36, 1913, pl 5, pp. 59.
June, 1848	Provincetown, Cape Cod, Mass.	42°05'	1	13 ft. long, brought to Boston for exhibition. Vide Storer, quoted by Goode, 1884, p. 671. Storer dissected it under name of C. atlantidis.
Aug., 1872	Eastport, Maine,	44°55'	1	
About 1873.	"At Victoria Beach" (near).		1	Teeth. J. W. Putnam, Bull. Essex Inst., Salem, 20 Apr. 1876, vol 6, p. 72. The fish had recently attacked a dory in which were two fishermen "Referring a specimen of the Carcharias (Prionodon) Lamia, on a closely related species."
"Many years ago"	"Bangereaux Bank off eastern Nova Scotia"	About 45° (Lat. about 55°)	1	About 13 ft. long, which attacked a fisherman in a dory (Putnam, Bull. Essex Inst., vol 6, 1874, p. 72). Ref. Bigelow, Fishes of Bay of Maine, 1925, p. 40.
Before 1884.	Provincetown, Cape Cod, Mass.	42°05'	4	Capt. Atwood reported that he had seen 4 caught in weirs near this at Provincetown. Vide Goode, 1884, p. 671.
Before 1884.	Woods Hole, Mass.	41°30'	about.	Taken in fish traps. All cotton over all.
14 July 1916.	South Amboy, New York Bay, N.J.	40°30'	1	
16 Oct. 1923	East Brewster, Cape Cod Bay, Mass.	41°45'	1	16 ft. long. Identified by Dr. Gorman.

Figure 3 A and B. An example of Harry Piers's writing, from Accession Book No. 4, page 235, giving particulars of a White Shark tooth, found embedded in the wood of a 25 foot motor boat after it was attacked (Museum No. 7508, Negative No's. 23,845 and 23,846).

[illegible] attacked when Munroe's [illegible]

, early in July, 1932. At the time it was slack water at low tide, and the sea
Munroe and his young son, in their 25-ft motor-boat stopped to overhaul their
ks. The shark at first circled around another boat about a quarter of a mile
from, without the slightest provocation it viciously attacked Munroe's boat, which
ed, hook-up forward on the starboard (right) side; which pushed the boat down aft
), both Munroe and his son being aft at the time, to tend the trawls. When the boat thus
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arly damaged, but some of the animal's teeth were left in the keel or
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came along and interrupted him. (This account is almost entirely based
ral account by Capt. Elmer Morgan, fishery inspector, of Bear River, Ann. Co., who
visited Bench a day or two after the incident, and who gave the particulars in 21 Jan./33,
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e shark no doubt taken off another letter of Campobello Island, New Brunswick,
23 Nov., 1932. — In the letter just [illegible] (shortly before 23rd) of November, of
r, 1932, a large shark "the first of its kind ever taken in local waters", of measured
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e measuring 5 ft. long, were taken in the brush-walls of a "sardine" [spring herring]
r Harbor De Lourdes, Campobello Island (Lat. 44°55', Long. 66°55'), in
ssaday Bay, New Brunswick. It plunged through the weir and became stranded
re. Campobello Island is a few miles east of Eastport, Me. (Lat. 44°55'), and about
e west the Bay of Fundy, westward of Victoria Beach (Lat. 44°40'), N.S., where the same species
ed in July. The fish when opened had an enormous liver, "enough, most of the carcass",
d even 50-gallon drums of liver, which needed great quantities of oil, which was sold
spraying. It was believed to be the same species of shark which attacked a fisherman's
Bay of Fundy near Digby some months ago". (Note next item, dated Deer Island [near
ne], N.B., 23 Nov. 1932). I think there can be hardly any doubt that this was the
which attacked the Victoria Beach, N.S., boat about 6 months before.

[illegible] first after dawn, about 10 July, 1932.
The locality would be about Lat 44°47', Long. 65°51'.
(As to the date: Capt. Morgan says it was in July. As when
and it appeared in a Halifax newspaper, and on 27 July/33, about
10 days or so after the storm appeared, I wrote to W. Munroe
for particulars, as that 3 weeks and 10 July is a reasonable
date for the occurrence.)

Verification of the Identification —
Mr. Piers identified the teeth as belong to Carcharodon carcharias (Linn.), Man-eater Shark, but owing to the rarity of the species as per words, wished to have his determination authoritatively verified, and therefore on 9 Nov./32 sent the teeth to U.S. Bureau of Fisheries, Wash., D.C., which replied on 17 Nov. U.S. National Museum, Wash. On 5 Dec./32, the Nat. Museum reported that the teeth had been examined by Mr. Earl S. Reid, Aid in the Division of Fishes, who made the following report concerning it:
"Mr. Piers is quite correct in identifying the accompanying teeth as those of the 'Man-eater' Shark, (Carcharodon carcharias (Linn.)). I have compared the specimen with a jaw of this species in our collections and find that the teeth corresponds exactly with the upper lateral teeth near the posterior angle of the jaw of a specimen not more than fifteen feet in length." This report from the Nat. Museum, positively confirms the identification.

Range of Species — Jordan & Evermann, Fishes of N. A., 1896, pt. 1, p. 50: "Found in cool temperate and tropical seas, and is occasionally taken on our coasts, both in the Atlantic and the Pacific (Europe)." — Bean, Cat. of Fishes of New York, 1903, p. 41: "Found in temperate or tropical parts of the Atlantic and Pacific oceans, but is rare in New York waters." Report of the specimen taken at Provincetown, Mass., 16 June, 1848. — Bigelow, Fishes of Bay of Maine, 1925, p. 39-40: "Cosmopolitan in tropical and warm-temperate seas, straying northward at rare intervals as far as New England and casually to Banquereau Bank off eastern Nova Scotia (Putnam, Bull. Essex Inst., vol. 6, 1874, p. 72). It is apparently rare anywhere ... the only sharks likely to attack human beings." — Breder, Field Book of Fishes, 1929, p. 22: "A comparatively rare form of tropical and sub-tropical seas on occasion straggling northward as far as coast of Nova Scotia ... One of the largest and most powerful of existing fishes ... The few definite and authentic records of sharks attacking men all refer to this single species ... Feeds on large fishes and sea turtles ... Reaches a length of 40 ft or more."

Occurrences recorded on Atlantic Coast of N.A., from New Jersey, Lat. 40°30', northward (see Storer, Fishes of Mass., 1867, p. 2; Storer, Hist. Fishes of Mass., 1867, p. 2; Storer, Fishes of New England, 1884, p. 671; Bigelow, Fishes of Bay of Maine, 1925, p. 40; and Putnam, Bull. Essex Inst., vol. 6, 1874, p. 72):

Date	Locality	Approx. Latitude	Number	Remarks
Between 1820-50	Massachusetts Bay, Mass.	about 42°30'	2	One 6 ft. long, the other 9 ft. long. Vide Storer, cited by Storer, 1884, p. 671.
Many years ago	do.	do	1	7 ft. 2½ in. long. Figured by Samuel, Memoirs, Essex Inst. Geology, Memoirs, vol. 36, 1913, pl. 5, figs. 5-9.
June, 1848	Provincetown, Cape Cod, Mass.	42°05'	1	13 ft. long, brought to Boston for exhibition. Vide Storer, cited by Storer, 1884, p. 671. Storer described it under name of C. atwoodi.
Aug., 1872	Eastport, Maine,	44°55'	1	
About 1873.	"St. Peter's Bank" (sic).		1	Teeth. F. W. Putnam, Bull. Essex Inst., Salem, 20 Sept. 1876, vol. 6, p. 72. The fish had recently attacked a dory in which were two fishermen. "Belong to a specimen of the Carcharias (Procarcharodon) Lamia, or a closely related species."
"Long ago"	"Banquereau Bank off eastern Nova Scotia"	About 43° (Lat. about 55°)	1	About 13 ft. long, which attacked a fisherman in a dory (Putnam, Bull. Essex Inst., vol. 6, 1870, p. 72). See Bigelow, Fishes of Bay of Maine, 1925, p. 40.
Before 1884.	Provincetown, Cape Cod, Mass.	42°05'	4	Capt. Atwood reported that he had seen 4 caught in weekend with at Provincetown. Vide Storer, 1884, p. 671.
Before 1884.	Woods Hole, Mass.	41°30'	Several.	Taken in fish traps. All rather small.
14 July 1916	South Amboy, Raritan Bay, N.J.	40°36'	1	
16 Oct. 1923	East Brewster, Cape Cod Bay, Mass.	41°45'	1	16 ft. long. Identified by Dr. Garman.

Figure 3 A and B. An example of Harry Piers's writing, from Accession Book No. 4, page 235, giving particuars of a White Shark tooth, found embedded in the wood of a 25 foot motor boat after it was attacked (Museum No. 7508, Negative Nr's. 23,845 and 23,846).